<u>REMARKS</u>

This reply is responsive to the Office communication received February 1, 2001 ("Final Notice") from the Patent and Trademark Office ("PTO") with a cover sheet devoid of the identifying data. The Final Notice states that applicants' June 29, 2000 Request for Reconsideration ("June '00 Request") was not fully responsive to the PTO Office communication mailed June 8, 2000 ("First Notice"). The Final Notice further states that the instant application will be deemed abandoned if applicants do not sufficiently answer within one month the 35 U.S.C. § 112, first paragraph rejections raised by the Examiner in an Office Action dated January 6, 1998 ("January '98 Office Action").

In response, applicants have amended the claims to more clearly conform the claims to the specification and correct typographical errors and informalities. Applicants respectfully traverse the Examiner's assertion that the June '00 Request was not fully responsive. However, in order to expedite the prosecution of this application, applicants submit herewith as Appendix A, a chart that provides detailed specification support citations to applicants' 1981 and 1987 specifications for each claim element. This chart plainly establishes that (i) applicants were in possession of the claimed invention at the time that the 1981 and 1987 applications were filed, and (ii) continuity under 35 U.S.C. § 120 was properly established and maintained from the filing of the 1981 application, through the filing of the 1987 application, and through the filing of the present application. Accordingly, applicants respectfully submit that this application is in condition for allowance in view of the information provided herewith, and applicants' remarks set forth in the July 2, 1998 Amendment and Request for Reconsideration ("July '98 Amendment).

## I. THE REJECTION UNDER 35 U.S.C. § 112, FIRST PARAGRAPH

The January '98 Office Action included a rejection of claims 2-11 and 14-22 under the written description requirement of § 112, first paragraph. The Examiner asserted in the January '98 Office Action that the claims contain "subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), *at the time the application was filed, had possession* of the claimed invention." (emphasis added.). The Examiner included a specific list of claim limitations deemed not to be "supported by the specification *as originally filed*."[1] (emphasis added). Significantly, the Examiner did not reject or even question applicants' claim of priority to the 1981 application.

### 1. <u>Possession of the claimed invention in 1981</u>

Based on the rejection made by the Examiner in the January '98 Office Action, applicants submit they were required to show that they had possession of the claimed invention in 1981. In *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555,19 USPQ2d 1111 (Fed. Cir. 1991), the court of appeals reaffirmed:

> ...that 35 U.S.C. 112, first paragraph, requires a "written description of the invention" which is separate and distinct from the enablement requirement. The purpose of the "written description" requirement is broader than to merely explain how to "make and use"; the applicant must also convey with reasonable clarity to those skilled in the art that, *as of the filing date sought*, he or she was in possession of the invention.

*Vas-Cath Inc.* at 1563 (emphasis added). The instant application properly claims priority under 35 U.S.C. § 120 to the filing date of the 1981 application. Applicants made their claim of

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[1] January '98 Office Action *at* 10.

priority on the record well before the January '98 Office Action.[2] Each claim in the instant application thus has an effective filing date of November 3, 1981 and the specification "as originally filed" is the specification filed with the 1981 application. The *Vas-Cath Inc.* ruling requires that applicants show possession by referring to the 1981 specification. The July '98 Amendment includes, in section II.D, a 2 page reply to the §112 "possession" rejections. The response distinctly and specifically demonstrates that the *originally filed* specification describes the claim limitations and that applicants were in possession of the claimed inventions when the 1981 application was filed. The response includes detailed and specific references to the parent Patent No. 4,694,490 indicating where each claim limitation is described.

**2. <u>§ 120 continuity objections</u>**

The Examiner's comments suggest that he has taken issue with applicants' claim of priority to the 1981 application. Applicants first wish to note that no rejection or objection was made in the January '98 Office Action with respect to applicants' claim of priority to the 1981 application. However, to the extent the Examiner now has any concerns regarding continuity, applicants respectfully submit that those concerns are addressed by the attached Appendix A, which demonstrates that both the 1981 and 1987 specifications fully support the subject matter claimed in the present application, and that applicants were in possession of that subject matter at the time the 1981 and 1987 applications were filed. Appendix B provides further evidence of continuity by demonstrating where each phrase of the 1981 specification is included in the written description of the 1987 specification. Because it has now been shown that applicants were in possession of the claimed invention in 1981 and 1987, and that continuity was properly

[2] *See, e.g.* p. 15, Response and Amendment Under 37 C.F.R. § 1.111, filed October 3, 1997.

established and maintained, applicants respectfully request that the rejection under 35 U.S.C. § 112 be withdrawn.

There is no requirement in either 35 U.S.C. §§ 112 or 120 that a parent application be incorporated into a subsequent application claiming priority therefrom either by reference or by verbatim repetition. "In order to determine whether a prior application meets the 'written description' requirement with respect to later-filed claims, the prior application need not describe the claimed subject matter in exactly the same terms as used in the claims; it must simply indicate to persons skilled in the art that as of the earlier date the applicant had invented what is now claimed." *Eiselstein v. Frank*, 52 F.3d 1035, 34 U.S.P.Q.2d 1467, 1470 (Fed. Cir. 1995)(citation omitted)(quoting *Vas-Cath v. Mahurkar*, 935 F.2d 1555, 1561, 19 U.S.P.Q.2d 1111, 1116 (Fed. Cir. 1991)). "*[I]psis verbis* disclosure is not necessary to satisfy the written description requirement of section 112. Instead, the disclosure need only reasonably convey to persons skilled in the art that the inventor has possession of the subject matter in question." *Fujikawa v. Wattonasin*, 39 U.S.P.Q.2d 1895, 1904 (Fed. Cir. 1996)(quoting *In re Edwards*, 568 F.2d 1349, 1351-52, 196 U.S.P.Q. 465, 467 (C.C.P.A. 1978)). Applicants respectfully submit that Appendices A and B submitted herewith demonstrate that applicants have complied with these requirements.

### 3. <u>The June 29, 2000 Request for Reconsideration was proper</u>

Although applicants firmly believe that Appendix A resolves all of the § 112 issues raised in this application, applicants wish to clarify for the record the confusion surrounding applicants' June 29, 2000 Request for Reconsideration ("June '00 Request"). The June '00 Request was responsive to the June 8, 2000, Office Communication ("First Notice") in which the Examiner

stated that applicants did not overcome the § 112 challenges raised in the January '98 Office Action. Applicants wish to note, however, that it was unclear from the brief First Notice as to whether applicants were entitled to reply. Indeed, in the First Notice, the Examiner cites language emphasizing that "[i]n no case may an applicant reply outside of the SIX (6) MONTH statutory period or obtain and extension for more than FIVE (5) MONTHS beyond the date for the reply set forth in an Office Action."[3] (emphasis original). The time period for reply expired 23 months prior to the First Notice. No extension was granted in the Notice. Accordingly, the Examiner's statement that "[a] fully responsive reply must be timely filed to avoid abandonment of [the instant] application" appeared to preclude the correction of the alleged deficiency. Applicants, therefore, replied in the form of a Request for Reconsideration to explain why the July '98 Amendment was fully responsive. Applicants' June Request fully addressed the issues raised in the one page First Notice. Applicants were of the view that the June Request would advance the prosecution of this application by eliciting an allowance or an Office Action on the merits to which applicants would be afforded an opportunity to respond.

## II. APPLICANTS HAVE DILIGENTLY AND VIGOROUSLY PROSECUTED THEIR APPLICATIONS

In addition to the issues relating to the rejection of the present application under § 112, and the § 120 concerns raised in the Final Notice, the Examiner describes several situations in which he believes that applicants have acted improperly. The Examiner has asserted that applicants have unreasonably and prejudicially delayed the prosecution of the instant and related

[3] First Notice.

applications. The Examiner appears to suggest that this behavior constitutes grounds for the denial of patents on the basis of laches.

Applicants respectfully submit that the foregoing discussion and the accompanying Appendices A and B fully and completely address the outstanding rejection under 35 U.S.C. § 112 in this application, as well as the Examiner's concerns relating to continuity. Nevertheless, applicants are concerned about the nature of the Examiner's comments on the additional matters and provide the following brief remarks to clarify the record. Applicants reserve the right to further respond to the Examiner's concerns if the circumstances warrant it, including, for example, if formal rejections are issued based on any of those concerns.

**1. <u>Alleged unreasonable delay</u>**

The Examiner expressed the view that applicants have unreasonably delayed the prosecution of their applications, and implied that applicants had sinister motives for doing so. Applicants strenuously object to this assertion. Applicants have been and continue to be of the view that their interests, and the public's interests, are best served by a thorough but expeditious examination process. The record demonstrates that applicants have vigorously prosecuted their applications, and have gone to great lengths to cooperate with the PTO to streamline the examination process. For example, applicants fully cooperated with the PTO in developing and implementing a consolidation strategy, through which applicants' 329 pending applications were reduced to 79 applications organized into 56 subject matter-based groupings.[4] Applicants have responded in detail to hundreds of Office Actions issued since June 1995, and in all respects,

[4] This process cost applicants over $500,000 in new filing and other PTO fees, and over $1 million in attorneys fees.

vigorously pursued and urged allowance of the corresponding applications. Applicants' replies have included, when requested, detailed specification support citations (including to the 1987 specification), and a correlation of every phrase in the 1981 specification to the 1987 specification. A table listing 22 cases in which such specification support and correlations were filed is attached as Appendix C. Applicants note that initially, these efforts proved fruitful, in that nine applications were allowed and another sixteen were indicated to be allowable after thorough examinations. Several other applications were indicated to include allowable claims. As the Examiner is aware, all of these allowances appear to have been withdrawn. But significantly, applicants urged that the allowed cases should be permitted to issue on the merits. This conduct, and efforts described above, are plainly not consistent with the notion that applicants have engaged in activities intended to delay prosecution of their applications.

### 2. The laches "rejection" is improper

Applicants dispute that there is any basis in law or fact for applying the doctrine of laches to deny the issuance of patents with respect to the 79 co-pending applications. As discussed above, applicants have diligently and vigorously prosecuted all of applicants' related applications. Applicants have not acted to delay the issuance of any patent from this application or any of applicants' related applications. No factual basis exists for applying an equitable theory to reject applicants' claims.

Furthermore, the PTO does not have the legal authority to reject claims on the basis of laches. The Patent Act of 1952 expressly permits applicants to claim the benefit of the filing date of an earlier filed application. No restrictions are placed on the time period in which applicants may bring claims that are supported by an earlier filed application. To the best of applicants'

knowledge, no court has denied enforcement of any patent claim on the basis of prosecution history laches since the enactment of the 1952 Act. Moreover, neither applicants nor the Examiner can cite a single instance in which prosecution laches has been applied by the PTO to deny the issuance of a patent.

The only authority that the Examiner cites to suggest that the PTO can exercise the doctrine of laches is a decision by the Board of Patent Appeals and Interferences ("BPAI") in which laches was <u>not</u> applied. In *Ex parte Hull*, the BPAI asserted that it had the power to apply laches on the basis that it was unaware of any statute or case law "which would prohibit the Patent and Trademark Office from invoking an equitable doctrine in refusing to take some action such as the issuance of a patent."[5] Applicants submit that the fact that a federal agency is not aware of any statute or case law which would preclude it from taking some action is not sufficient to establish that the agency in fact has the authority to take such action. The PTO is a creation of statute. As such, it can act only within the bounds of the statute by which it is created. By the admission of the BPAI, it cannot find any statutory or judicial authority granting the PTO the authority to apply the doctrine of laches to reject a claim. Applicants are unaware of any statutory or case law created in the 25 years following the BPAI's decision in *Ex parte Hull* which would give the PTO the power to apply the equitable doctrine of laches to deny the issuance of a patent.

Assuming arguendo that the BPAI was correct, the PTO still could not apply laches to reject applicants' claims. In *Ex parte Hull*, the BPAI was addressing a situation where an Examiner was seeking to reject on the basis of laches, the sixth application filed in a series of

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[5] *Ex parte Hull*, 191 U.S.P.Q. 157, 159 (P.T.O.B.A. 1975).

continuation applications. In each of the first five applications, Hull had filed a continuation-in-part application after the mailing of a notice of allowance in its parent application and just prior to the date upon which the issue fee for its parent was due.[6] Hull then abandoned each of the parent applications.[7] Hull admittedly pursued the course of conduct in order to "avoid the divulgence of his basic invention".[8] The BPAI ruled that laches could not be applied without prior notice. Applicants submit that the fact pattern in the present and co-pending applications is clearly distinct. Applicants are not trying to "hide the ball" (their disclosures were published years ago). And as the facts discussed herein show, applicants have strenuously argued to obtain allowance of their applications.

### 3. <u>ITC investigation and judicial notice</u>

The Examiner states that an administrative law judge's findings in an ITC investigation put applicants on notice that they were required to refer to the '87 specification when responding to the January '98 Office Action. Applicants respectfully submit that Judge Luckern's findings in the ITC investigation addressed enablement rather than possession issues and therefore inapplicable and did not put applicants on judicial notice to use the '87 specification. In considering the enforceability of applicants' U.S. Patent No. 5,335,277 (" '277"), Judge Luckern ruled that the '277 patent must be enabled by the written description contained in the '277 patent rather than the '81 specification.[9] Enablement can be established only within the four corners of

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6 *Id.*

7 *Id.*

8 *Id. at* 159-160.

9 *See* p. 152 of the "Initial Recommended Determinations", Certain Digital Satellite System (DSS) Receivers and Components Thereof, USITC, Inv. No. 337-TA-392, (October 27, 1997).

an application's specification. Thus, one must determine enablement from the specification contained in the application itself. Sections 112 and 120, on the other hand, require that one look at the parent application's specification when determining whether a continuation application can properly claim priority to the parent application's filing date.[10]

The § 112 rejection raised in the January '98 Office Action specifically requested support to the specification "as originally filed". No rejection based on enablement was made. Judge Luckern did not hold that the '87 specification contained in application Serial No. 096,096 filed on September 11, 1987 was the "originally filed description". He ruled only that the '277 patent must be enabled by the written specification contained in the '277 patent which was issued on application Serial No. 56,501, filed on May 3, 1993 (i.e., 6 years after the 1987 application).[11] Thus, even if § 112 enablement had been raised as an issue in the January '98 Office Action, the Judge's ruling would not have required applicants to refer to the '87 specification.

It is also important to note that Judge Luckern never challenged applicants' claim of priority to the 1981 parent application. Continuity was not an issue. The Judge specifically found that the 1981 application was the "parent application for each of the '490 patent, the '725 patent, the '825 patent, the '414 patent, the '654 patent and the '277 patent."[12] Accordingly, the ITC findings actually served as confirmation that applicants were required to refer to the '81 specification in addressing the § 112 possession rejection.

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10 *See, e.g. Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555 *at* 1563.

11 *See* Initial Recommended Determinations, *supra* Note 9 *at* 152.

12 *Id. at* 251.

The Examiner further alleges that Judge Luckern reprimanded applicants' counsel for practicing deception by referring to the '81 specification and that applicants' counsel, Thomas J. Scott, Jr. apologized for the deception. The Examiner did not specifically identify where in Judge Luckern's Initial Investigative Report this reprimand and apology appear. After a thorough review of the entire ITC decision, no such reprimand or apology has been found.

4. **<u>Information Disclosure Statements</u>**

The Examiner expressed concern about the number of references cited by applicants in information disclosure statements. As discussed by applicants in prior submissions to the PTO, the reason for the large number of cited references is that applicants have submitted all of the references that were produced to applicants in connection with prior litigation involving patents in the same family. Applicants were (and still are) of the view that applicants' duty under 37 C.F.R. § 1.56 compelled such disclosure. Applicants regret that several administrative inadvertencies were made in the course of preparing the submissions for such a large number of references. However, applicants note that these errors were promptly corrected once the errors were brought to their attention.

5. **<u>Alleged misrepresentation of § 120 requirements</u>**

Applicants agree with the Examiner that § 120 requires applicants to maintain continuity through each of the applications included in the chain of priority. After a review of the record, it is not clear why Examiner believes that applicants might think otherwise. Section 120 continuity rejections/objections were not raised in the January '98 Office Action. Now that applicants are being afforded the opportunity to discuss the continuity issue, applicants have responded in detail.

The Examiner alleges that applicants' counsel, Mr. Scott, attempted to deceive the Examiner and the Board of Patent Appeals and Interferences by misstating the law in the prosecution of application Serial No. 08/113,329 (" '329"). In particular, the Examiner claims that Mr. Scott rendered the citation deceptive by including the parenthetical phrase "(i.e. it relies upon and is supported by the parent application's specification)" relating to "(2) continuity of disclosure". Applicants submit that the recitation is a correct reading of the law and deny that Mr. Scott attempted to mislead anyone. The meaning of the word "it" is readily discernable when one considers the wording of the other parenthetical phrases. Parenthetical phrases 1, 3 and 4 quoted by the Examiner all refer to the "subsequent" or "continuation" application. The word "it" in the parenthetical for (2) can similarly be inferred to mean the "subsequent" or "continuation" application.

Applicants wish to note again that the PTO did not challenge applicants' claim of priority to the '81 application in the January '98 Office Action. Therefore, applicants were under no obligation to affirmatively demonstrate continuity by establishing support in both the '81 and '87 specifications. Now that the issue has been raised, applicants have responded completely and promptly. There has been no delay caused by applicants.

### 6. **Preliminary amendments**

The Examiner alleges that applicants caused unreasonable delay by filing preliminary amendments as late as April 23, 1996. Applicants first note that the preliminary amendments were timely filed. Moreover, the record shows that the filing of the amendments did not cause delay. In the April 3, 1997 Office Action, Examiner Faile stated that the PTO informed applicants during an August 13, 1995 interview that "[n]o examination was planned until at least late October."[13] Examiner Faile further stated that applicants informed the PTO that they were preparing preliminary amendments, but that the PTO cautioned that "the prosecution of the applications [would] not be delayed."[14] Thus, applicants were put on notice that examinations would proceed whether or not the preliminary amendments were filed. Nowhere in the description of the filings and interviews that occurred in 1995 and 1996 does Examiner Faile state or even suggest that applicants created any delay by filing preliminary amendments or otherwise.

The Examiner also asserts that applicants caused unreasonable delay when counsel Woolston allegedly requested a delay in prosecution of one of the co-pending cases (application 08/448,116, " '116") as late as Jun 12, 1996. Applicants respectfully disagree with the Examiner's characterization of the facts and submit that neither counsel Woolston, nor any one else requested a delay of prosecution on applicants' behalf. The April '97 Office Action cited by the Examiner strongly supports applicants' position.[15] Mr. Woolston's statement that

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13 April '97 Office Action, p. 32.

14 *Id.*

15 Final Notice Appendix, p. 430 (March 24, 1997 Office Action filed in application Serial No. 08/459,216, p. 39).

supplemental amendments would be filed cannot be interpreted to mean that he requested a suspension in prosecution of the '116 application. As described in the April '97 Office Action, the PTO informed applicants' that the ". . . prosecution of the applications will not be delayed" while the applicants prepare and file supplementary amendments.[16]

7. **Applicants in good faith disputed the teachings of Campbell**

Applicants wish to make the following remarks in order to clarify their position on the events surrounding the withdrawal of applicants' applications from issue. The PTO allowed 6 of applicants' related applications for issuance before the consolidation effort began in the spring of 1999. Applicants timely paid the issue fees. One application issued as a patent. After applicants began the consolidation effort, the PTO changed its position and announced that it intended to withdraw the remaining 5 applications. The PTO wanted to require applicants to consolidate the claims from the allowed applications into the 79 consolidated cases. Applicants, desiring to move the examination process along, vigorously protested the PTO's planned course of action, arguing that the applications were allowable on the merits. The PTO based its desire to withdraw the applications on the assertion that one or more claims are unpatentable.

Numerous interviews were conducted during the spring and summer of 1999. The teachings of U.S. Patent No. 4,536,791 issued to Campbell et al. (Campbell) were thoroughly discussed. Applicants were (and are) of the view that Campbell does not anticipate the claimed subject matter of application Serial No. 08/484,858 (the '858 application). Campbell was cited both by applicants in their Information Disclosure Statements and by the Examiner in the Notice of References cited in the '858 application. An interview to specifically address the potential

[16] *Id.* at p. 426 (March 24, 1997 Office Action filed in application Serial No. 08/459,216, p. 35).

withdrawal of the remaining allowed applications was held on July 15, 1999.[17] At the interview, the Examiner argued that claim 9 of the '858 application was anticipated under 35 U.S.C. § 102 by Campbell. Applicants disagreed. Applicants asserted at the interview and continue to assert that the PTO has failed to demonstrate that Campbell teaches the *claimed subject matter* of any of the applications on which the issue fee was paid. At the interview, applicants agreed to provide a supplemental response addressing the concerns raised orally by the Examiner. Applicants demonstrated the distinctions between Campbell and the claimed subject matter of the '858 application in the paper filed August 5, 1999 entitled "Request to Enter Amendment After Notice of Allowance and After Payment of Issue Fee Under 37 C.F.R. § 1.312(A)". The '858 application was withdrawn from issue on November 4, 1999, but no specific basis for the withdrawal has ever been provided.

**8. Applicants' claims are adequately disclosed**

The Examiner states that applicants argue that a series of "distributed cuing signals represented a series of instructions for controlling a programmable processor and therefor represented computer software 'programming'". The Examiner rejects the argument and uses it as an example of how applicants allegedly attempt to give a new and different meaning to terminology in the '81 and '87 specifications so as to "claim patent coverage over the downloading of 'computer software/programming'" which he states was not disclosed in the originally filed disclosure. Applicants respectfully submit that they have attempted to claim only subject matter disclosed in applicants' specifications. Applicants welcome the opportunity to

[17] Although the Notice places the interview on July 16th, applicants records indicate the interview was held July 15th.

address specific objections that the Examiner may have with respect to the subject matter claimed in any of applicants' related applications.

### 9. <u>Applicants have satisfied their duty of disclosure</u>

Applicants respectfully submit that they have fully complied their duty under 37 C.F.R. § 1.56, and the guidelines set forth in M.P.E.P. § 2001.06(b). In 1995, applicants identified all their pending applications. Applicants informed the PTO that these applications are related and have similar disclosures. Applicants provided the PTO with lists that grouped applications by similar claimed subject matter. Applicants have continued to cooperate with the PTO to ensure similar subject matter is examined in a similar manner. For example, applicants agreed to consolidate claims in the subject matter groups into one or two applications which ensures that related claims are examined together. Applicants are not aware of different cases that contain substantially duplicate claims, or of any instances in which the PTO has treated substantially duplicate claims inconsistently.

Applicants note that to reduce the amount of paper passed between applicants and the PTO, the PTO and applicants agreed that prior art cited by either party needed to be submitted only once, and that the art would nevertheless be made of record in all of applicants' related cases.[18]

Contrary to the Examiner's assertions, applicants have not submitted the same claim or broader versions of the same claim in separate application and then failed to notify the PTO of prior art rejections that are made in one of the applications but not the others. Indeed, the

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[18] *See* Office Action mailed April 3, 1997, p. 32. *See also* Final Notice Appendix at 426.

example cited on page 21 of the Final Notice demonstrates that the claims of applicants' related applications are quite different. The chart below highlights the differences.[19]

| Claim 15 of App. Ser. No. 08/459,218<br>as amended August 4, 1997 | Claim 19 of App. Ser. No. 487,408<br>as amended August 1, 1997 |
|---|---|
| A method of controlling a remote intermediate **data** transmitter station<br><br>to communicate **data**<br>to one or more receiver stations,<br><br>with said remote intermediate transmitter station including<br><br>a broadcast or cablecast transmitter for transmitting **one or more signals which are effective at a receiver station to instruct a computer or processor,**<br><br>a plurality of selective transfer devices each operatively connected to said broadcast or cablecast transmitter for communicating **data,**<br><br>a **data** receiver for receiving **transmissions** from an origination station transmitter,<br><br>a control signal detector,<br><br>and a controller or computer capable of controlling one or more of said selective transfer devices,<br><br>and with said remote intermediate transmitter | A method of controlling a remote intermediate **mass medium programming** transmitter station<br>to communicate **mass medium programming**<br>to at least one receiver station,<br><br>said remote intermediate mass medium programming transmitter station including<br><br>one of a broadcast transmitter and a cablecast transmitter for transmitting **said mass medium programming,**<br><br>a plurality of selective transfer devices each operatively connected to said one of said broadcast transmitter and said cablecast transmitter for communicating **said mass medium programming,**<br><br>a **mass medium programming** receiver for receiving **said mass medium programming** from at least one origination transmitter station,<br><br>a control signal detector,<br><br>and one of a controller and a computer capable of controlling at least one of said plurality of selective transfer devices,<br><br>said remote intermediate mass medium |

19 Prosecution of application Serial No. 08/459,218 (the " '218 application) is held in abeyance per the consolidation agreement. Accordingly claim 15 has been cancelled from the '218 application and has been added to application Serial No. 08/487,851 as claim 74. Claim 15 was rejected on February 3, 1997, not February 23. The Final Notice refers to claim 18 of application Serial No. 08/487,408, but after reviewing the cited applications applicants believe that the Examiner meant to cite to claim 19.

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|---|---|
| station adapted to detect the presence of one or more control signals, | programming transmitter station adapted to detect the presence of at least one control signal, |
| to control the communication of **specific instruct signals in response to detected specific control signals,** | to control the communication of **said mass medium programming in response to said at least one control signal,** |
| and to deliver to its broadcast or cablecast transmitter **one or more instruct signals,** | and to deliver at said one of said broadcast transmitter and said cablecast transmitter **said mass medium programming,** |
| said method comprising the steps of: | said method comprising the steps of: |
| (1) receiving **one or more first instruct signals to be transmitted by the remote intermediate data transmitter station and** | (1) receiving **said mass medium programming at said at least one origination transmitter station**; |
| delivering **said one or more first instruct signals** to said origination station transmitter, ***said one or more first instruct signals being effective at a receiver station to process a reaction of a subscriber and deliver a second instruct signal or perform a function based on a specific subscriber input***; | (2) delivering **said mass medium programming** to at least one origination transmitter, ***said mass medium programming having an instruct signal that instructs said at least one receiver station to process one of a plurality of signal types and to deliver at least a portion of a multiple media programming presentation***; |
| (2) receiving one or more control signals which at the remote intermediate data transmitter station operate to control the communication of **said one or more first instruct signals**; and | (3) receiving said at least one control signal, said at least one control signal controls, at the remote intermediate mass medium programming transmitter station, the communication of **said mass medium programming**; and |
| (3) transmitting said one or more control signals to said origination station transmitter before a specific time. | (4) transmitting said at least one control signal to said one of a broadcast transmitter and said cablecast transmitter before a specific time. |

These two claims are not the same. In addition to the significant differences cited by the Examiner, claim 15 is directed to a system that responds to a subscriber reaction, while claim 19 is directed to a system that delivers a multiple media presentation. Not surprisingly, different art

was cited against these different claims. Specifically, claim 15 was rejected as being anticipated by U.S. Patent No. 4,251,691 issued to Kakihara et al. ("Kakihara"). Kakihara was cited by the Examiner to applicants in application Serial No. 08/487,408. See Notice of References Cited at 4 (attached to Office Action mailed Feb. 4, 1997). Art other than Kakihara was applied against claim 19. Significantly, all of the references cited against claim 15 were of record in the examination of claim 19, and vice versa. Applicants thus had no reason to believe that the Examiner did not properly consider Kakihara during the examination of claim 19. Applicants have caused no delay and have complied with M.P.E.P. §§ 2001.06(b), 2004 ¶ 9.

As another example of applicants' alleged impropriety, the Examiner cites to applicants' alleged failure to inform the Examiner of application Serial No. 08/441,577 (" '577") that the Examiner of application Serial No. 08/446,431 (" '431") had previously rejected applicants' argument and that applicants' had amended the claims of the '431 application to avoid Campbell.[20] Applicants strongly disagree with the Examiner's characterization of the facts. Applicants did not amend the '431 application to avoid Campbell. In fact, applicants have steadfastly maintained throughout all of their dealings with the PTO that Campbell does not teach "simultaneous or sequential presentation," a key limitation of the '431 application claims at issue. Thus applicants have not, as the Examiner seems to suggest, taken inconsistent positions with respect to the teachings of Campbell. Therefore, applicants have caused no delay and have complied with M.P.E.P. §§ 2001.06(b), 2004 ¶ .

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20 *Id.*

### 10. **Delayed consolidation**

The Examiner states that applicants caused prejudicial delay by failing to consolidate in a timely fashion the 328 related applications into 79 applications. Applicants and the PTO agreed that each of the 79 consolidated cases would be reviewed on its merits, and an Office Action would be issued within 6 weeks after applicants completed the consolidation of that case. [21] According to the agreed upon process, applicants and the PTO would meet to discuss the claims to be consolidated into an application on day 1.[22] After a series of interviews, applicants would then consolidate the claims and file the required amendments to the affected applications by day 29. The PTO would issue an Office Action on the consolidated application by day 36.[23] The PTO and applicants agreed that it was not necessary to delay the review of a completed application until all 79 cases were fully consolidated.

The PTO was aware that 14 cases would not be amended during the consolidation process and could be reviewed immediately. Applicants began delivering the consolidation amendments to the PTO on March 4, 1999. Shortly thereafter, the PTO refused to meet with applicants to continue the consolidation process. Nevertheless, applicants continued with their efforts and by June of that year had consolidated 23 of the 79 cases. Thus, a total of 37 cases were ready for review on the merits by June of 1999. Applicants finished the process for the remaining 42 cases by June 28, 2000.[24] Each of the 79 active applications cases is ripe for review on the merits.

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[21] A diagram showing the consolidation process is attached as Appendix D.

[22] *See, e.g.* Appendix D.

[23] *Id.*

[24] Applicants concede that a transfer of the cases from the law firm of Howrey & Simon to Hunton & Williams caused a slight delay in the delivery of the final round of consolidation amendments to the PTO. Applicants note,

The Examiner now contends that applicants' caused unreasonable delay by failing to complete the consolidation of all 79 cases within a year. Applicants submit that they completed the consolidation in a timely manner and that the record establishes that they are not responsible for delay. The PTO previously agreed that multiple teams of examiners would examine the 79 applications. However, it now appears that a single Examiner is now responsible for examining all of the co-pending cases. Applicants respectfully submit that the present arrangement is not designed to efficiently move the examination of the applications forward.

### 11. Delay attributable to PTO

Applicants wish to note for the record that it is their view that any delays in the prosecution of applicants' related applications are attributable to various actions taken and decisions made by the PTO. Several of these actions and decisions are set forth in detail in applicants' March 7, 2000 Petition to the Commissioner Under 37 C.F.R. § 1.181 in application Serial No. 08/470,571. The record establishes that the PTO is not giving the 79 co-pending applications, which were filed in 1995, the accelerated treatment accorded "special cases" as required by the Manual of Patent Examining Procedure (M.P.E.P.) § 708.01(i). Specific examples of delay that applicants believe are attributable to the PTO include:

- In the initial Office Action filed in the co-pending applications, the PTO stated that no examination of the 328 applications was planned until at least late October, 1995 due to PTO administrative issues. The first Office Action actually was not issued until well into 1996;

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however, that the delivery of the final amendments apparently did not cause any delay in the overall process as the PTO waited until April of 2000 to issue the first action on the merits of any of the 37 applications consolidated by June 1999.

- The PTO also issued in 1997 and 1998 notices of 6 month suspensions of examination in at least 212 of the 328 original applications;[25]
- The massive restructuring of the PTO that occurred during 1997 and 1998 contributed significantly to the delay of examination on the 328 applications during this time period;[26]
- The last action issued in 49 of the 79 co-pending applications pre-dates the consolidation process which began in March of 1999;
- Notices of non-responsiveness but no action on the merits issued in another 8 of the 79 applications;
- The PTO addressed the merits on the remaining 22 of 79 applications through nearly identical Office Actions;
- In those 22 applications, the Examiner rejected every claim under 32 U.S.C. §112, first paragraph, and requested that applicants establish support for literally every single word of nearly every claim, including the words "one", "of", and "and".[27]
- Within 24 hours of the filing of applicants' responses to the § 112 rejections, the Examiner issued a three page Office communication (" '571 Communication") in application 08/470,571 (" '571") notifying applicants that the June 7, 2000 response was not fully responsive.
- Applicants responded to the '571 Communication on July 7, 2000 explaining why the Examiner was incorrect. The Examiner has not taken any further action in the '571 case or the remaining 21 cases subject to the § 112 rejections.
- On November 4, 1999, the PTO issued a letter withdrawing from issuance four previously allowed applications for which the issuance fee had been paid. The withdrawal letter contained only a statement that the applications were being withdrawn for containing one or more unpatentable claims. The PTO has yet to state which claims in the applications were objectionable or to provide grounds to support its determination.
- During the consolidation process, numerous applications in which allowable subject matter had been noted or that had been indicated as allowable were consolidated to be evaluated and issued within the context of the consolidated subject matter groupings. The PTO now seeks to dispense with some of the

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[25] *See, e.g.* the Notice of Suspension of Examination attached as Appendix E as an example. *See also* Appendix F for a list of applications in which Suspensions of Examination were filed.

[26] *See, e.g.* the Office Communication informing applicants of the move of the examiner and the application file attached as Appendix G.

[27] *See, e.g.*, Office action dated 4/10/00 in application 08/449,523, p. 9 (claim 3).

previously allowable subject matter by deeming the underlying consolidated applications to be abandoned.[28]

- In addition to maintaining 79 active applications ("A cases"), the PTO and applicants agreed that another 79 applications would remain pending ("B cases") with further examination to be held in abeyance until a final review on the merits was completed on the A cases. The Examiner has filed notices of abandonment in 24 of the B cases.

Due to the delays cited above, applicants felt compelled to file their 37 C.F.R. § 1.181 petition to seek the Commissioner's assistance in setting a schedule for examination. The aggressive schedule proposed by applicants confirms their desire to obtain patents on the claimed subject matter as quickly as possible. Applicants are eager to work with the PTO to expeditiously examine the related applications.

### 12. <u>Too many claims</u>

The Examiner asserts that applicants have delayed prosecution of the instant application by filing too many claims and that applicants have shown bad faith by failing to maintain a line of patentable demarcation between related patents. Applicants respectfully disagree. Applicants have varied the scope and subject matter of their claims to ensure that the claims and applications are not duplicative. Applicants have neither acted improperly nor caused unreasonable delay by filing the claims contained in the instant and co-pending applications.

## III. LICENSING AND LITIGATION

Some of the statements in the Final Notice suggest that the Examiner believes that applicants have acted improperly by licensing their patented technology, as opposed to developing it themselves. Applicants respectfully submit that licensing is a legitimate, proper

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[28] *See, e.g.*, applications 08/437,864, 08/488,378, 08/498,002 and 08/511,491.

and desirable way for patent owners to make patented technology available to the public. Significantly, applicants' current licenses include leaders in the television services industry, such as Starsight Telecast, Inc.; TVG-PMC, Inc.; The Weather Channel, Landmark Communication, Inc., Sony Corporation; and Pegasus Communications.[29] All of these licenses were granted in exchange for substantial payments.

The Examiner also seems to suggest that applicants have misused the judicial process in enforcing their patents. This suggestion is wholly unsupportable. All of applicants' licensees except one were consummated without any judicial involvement. Although litigation was commenced against Landmark Communications and The Weather Channel, that matter settled before trial by a grant of a license for a substantial payment. The only litigation currently being pursued is pending in the United States District Court for the District of Delaware against certain manufacturers and providers of direct broadcast satellite systems and services. This litigation is being pursued in conjunction with applicants' exclusive licensee, Pegasus Communications. Thus, applicants' use of the court system to enforce its patent rights has been very limited and entirely proper.

The Examiner also expressed the concern that applicants are acting improperly by prosecuting a large number of applications that could impact competitors in the market place. As the Examiner is well aware, patents, by design, bestow temporary exclusive rights with respect to the subject matter claimed. The fact that third parties are likely to infringe a patent is neither evidence of improper conduct nor proper grounds for refusing to issue a patent. And as

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[29] The parent corporations of StarSight Telecast, Inc. (Gemstar International Group, Ltd.) and TVG-PMC, Inc. (TV Guide, Inc.) recently merged to form Gemstar-TV Guide International, Inc. The Weather Channel is a subsidiary of Landmark Communications, Inc.

discussed above, applicants have not submitted applications to overwhelm the PTO or the public. The applications were submitted solely for the purpose of properly protecting the many inventions disclosed in applicants' 1981 and 1987 specifications.

## IV. SMALL ENTITY STATUS

The Examiner pointed out that applicants have paid PTO fees as a small entity in some cases, and as other than a small entity in others. Applicants respectfully submit that this approach was not in any way improper, and indeed, all PTO fees have been paid in good faith. Specifically, in connection with making the determination of whether PMC was entitled to small entity status with respect to each application, a review was undertaken to determine if that application was subject to licenses granted by PMC. Small entity status was not claimed unless it was determined that the particular application was not subject to the license. However, applicants note that they recently paid the difference between the small entity and other than small entity fees for all of their related applications, including those that were abandoned in the consolidation process, in order to avoid any further confusion on this point. Accordingly, the issue is moot. See 37 C.F.R. § 1.28(c).

## V. DISQUALIFICATION FROM THE WEATHER CHANNEL CASE

The Examiner states that Mr. Scott was "rebuked" in the Weather Channel case. Applicants strongly disagree. In *Personalized Mass Media Corp. v. The Weather Channel, Inc. et al.*, Mr. Scott and the law firm of Howrey & Simon were required to withdraw as trial counsel for the plaintiff because there was an assertion that Mr. Scott may have had factual knowledge related to the matter in contest and was deemed to be a potential witness. There was no "rebuke"

or finding of inappropriate conduct on Mr. Scott's or the firm's part. Significantly, as discussed above, this matter was settled by a grant of a license to the defendants for a substantial payment.

## VI. CONCLUSION

In conclusion, applicants respectfully submit that all information requested by the Examiner, and required by the January '98 Office Action, has been duly submitted, and that this application is therefore in condition for allowance. If there are any further issues that stand in the way of allowance, applicants respectfully request that they be presented in an Office Action on merits. Applicants further wish to inform the Examiner that the undersigned attorney is now the lead counsel representing applicants and the assignee in connection with the prosecution of this application and the related applications. The undersigned attorney requests the opportunity to meet with the Examiner to discuss the issues raised in this submission, and to facilitate the prosecution of the present application and the related applications. Reconsideration and allowance of this application are respectfully requested.

Respectfully submitted,

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| 2. A television receiver station apparatus for | Column 17 lines 47-53. | FIG **6** illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. **6F** and **6G** is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit. | Page 390 lines 30-35.<br><br>Page 396 lines 8-10. | Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.<br><br>Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples. |
| detecting the status of a television display and | Column 19 lines 9-12. | When that time comes, microcomputer, **205**, receives no program identification signals whatever from TV signal decoder, **203**, which indicates that the set, **202**, is not on. | Page 444 lines 33-34. | …decoder, 145, to determine, in a predetermined fashion, that power is not on to monitor, 202M, and to respond by…. |
| storing a television program on a video storage device | Column 19 lines 25-27. | … and [microcomputer, **205**,] may instruct control system, **220**, to turn video recorder, **217**, on and record "Wall Street Week," … | Page 445 lines 24-27.<br><br>Page 446 lines 18-23. | … instructions causes controller, 20, … to switch power on to video recorder/player, 217, …<br><br>… controller, 20, … causes recorder/player, 217, to record said information of the "Wall Street Week" program. |
| | Column 19 lines 5-20 | | | |
| depending on the status of said television display, said television receiver station apparatus comprising: | Column 19 lines 9-12. | When that time comes, microcomputer, **205**, receives no program identification signals whatever from TV signal decoder, **203**, which indicates that the set, **202**, is not on. | Page 444 lines 33-34. | …decoder, 145, to determine, in a predetermined fashion, that power is not on to monitor, 202M, and to respond by…. |
| a receiver section for receiving a broadcast carrier transmission; | Column 9 line 23. | … and [the controller, 20] can be reprogramed from such remote sources. | Page 537 lines 6-17. | At 3:10 AM, GMT, *said European master network station* transmits particular SPAM message information, embedded in the information of said master transmission, including a SPAM end of file signal and the aforementioned sequence of SPAM messages that contain operating system instructions. In so doing, said European master network station inputs operating system instructions to all SPAM apparatus and receiver station |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | | | with respect to page 555 line 24 to page 556 line 14. | computers, 73, and microcomputers, 205, thereby causing said apparatus and computers, 73 and 205, as described above in "PREPROGRAMMING RECEIVER STATION OPERATING SYSTEMS," to commence operating under control of the instructions of said operating systems.<br><br>… particular information of said TELEPHON.EXE module that causes … signal processor, 200, to transmit the information … via telephone network in the fashion of example #10, to a computer at a particular remote data collection station.<br>Over the course of a particular time such as two days, computers at remote data collection stations receive data automatically from each farmer of said nations which data indicates the specific quantity of each crop that each farmer expects to harvest during the 2027 growing season. Automatically, the received data is aggregated, in a fashion well known in the art, at the computer of said *European master network* origination and control *station* …<br>Then, at 3:59 PM, on Thursday, February 18, 2027, the cycle of generating and communicating information of farmers is repeated … |
| a demodulator operatively connected to said receiver section, said demodulator demodulating said broadcast carrier transmission to detect an information transmission therein; | Column 6 lines 42-50. | Decoder **30** is shown more fully in FIG **2A**. In the decoder, **30**, the frequency passes first through filter **31** which defines the particular channel of interest to be analyzed. The television channel signal is then transmitted to a standard amplitude demodulator, **32**, which uses standard demodulator techniques well known in the art to define the television base band signal. This base band signal is then transmitted through separate paths to three separate detector devices. | Page 34 line 21 to page 35 line 1. | Fig. 2A shows a TV signal decoder … Decoder, 203, in Fig. 1 is one such TV signal decoder; decoder, 30, in Fig. 2 is another.<br>In Fig. 2A, a selected frequency is inputted at a fixed frequency to said decoder at filter, 31, which defines the particular channel of interest to be analyzed. The television channel signal then passes to a standard amplitude demodulator, 32, which uses standard demodulator techniques, well known in the art, to define the television base band signal. This base band signal is then transferred through separate paths to three separate detector devices. |

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| | Column 9 lines 53-57. | The local oscillator, being thus sequenced, will allow each signal decoder, **30** and **40**, to receive a particular frequency at a particular time interval. | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 … <br> Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | | | Page 265 line 27 to Page 266 line 21. | Said radio-detection-complete information causes … controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 … <br> After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, … causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. |
| | | This will define the timing of the composite outputs of the digital detectors, **34**, **37**, and **38** in FIG. **2A**, and **43** in FIG. **2B**. | Page 250 lines 13-17. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command. |

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| | | | 251 lines 8-11. | Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; … |
| | | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. |
| | | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| a processor operatively connected to said demodulator and said receiver, | Column 7 lines 50-54. | Processor or monitor, **12**, analyzes, in a pre-determined fashion, the signal words and units that it receives and determines whether they are to be passed to external equipment or to buffer/comparator, **14**, for further processing or both. | Page 31 lines 10-14. | Controller, 12, receives the signals inputted from buffer/comparator, 8, and decryptor, 10; analyzes said signals in a predetermined fashion; and determines whether they are to be transferred to external equipment or to buffer/comparator, 14, or both. |
| | Column 7 lines 6-11. | If one returns to FIG. **1**, one sees that the three separate lines of information outputted from TV signal decoder, **30**, are then gated to a buffer/comparator, **8**, which also receives other inputs from the other separate receivers comprising similar filters, demodulators, and decoders for other channels of interest. | Page 29 line 33 to page 30 line 5. | Decoder, 30, which is shown in detail in Fig. 2A, and decoder, 40, which is shown in Fig. 2B, detect signal information embedded in the respective inputted television and radio frequencies, … and output said signals and said modified signals to buffer/comparator, 8. |
| | Column 7 lines 47-49. | Buffer/comparator, **8**, passes signal words and units not identified as requiring decryption directly to processor or monitor, **12**. | Page 30 lines 29-30. | Buffer/comparator, 8, transfers signals that do not require decryption directly to processor or controller, 12. |
| said processor detecting and routing at said receiver station | Column 7 lines 50-60. | Processor or monitor, **12**, analyzes, in a pre-determined fashion, the signal words and units that it receives and determines whether they are to be passed to external equipment or to buffer/comparator, **14**, for further processing or both. If a signal or | Page 31 lines 10-22. | Controller, 12, receives the signals inputted from buffer/comparator, 8, and decryptor, 10; analyzes said signals in a predetermined fashion; and determines whether they are to be transferred to external equipment or to buffer/comparator, 14, or both. If a signal or |

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| | | signals are to be passed externally, processor unit, **12**, identifies, in a pre-determined fashion, the external equipment to which the signal or signals are addressed and passes them to appropriate jack ports for external transmission. If they are to be processed further, processor or monitor, **12**, passes them to buffer/comparator, **14**. | | signals are to be transferred externally, in a predetermined fashion controller, 12, identifies the external apparatus to which the signal or signals are addressed and transfers them to the appropriate port or ports for external transmission. If they contain meter and/or monitor information and are to be processed further, controller, 12, selects, assembles, and transfers the appropriate information to buffer/comparator, 14. |
| control signals associated with said information transmission; and | Column 7 lines 37-39. | … that enables buffer/comparator, **8**, among other things, to assemble signal units from signal words. | Page 37 lines 22 to page 38 line 10. | Controller, 39, 44, or 47, is preprogrammed to receive units of signal information, to assemble said units into signal words that subscriber station apparatus can receive and process, and to transfer said words to said apparatus. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said controller, 39, 44, or 47, has one or more output ports for communicating signal information to said apparatus. |

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| | | | Page 156 line 33. | Fig. 3A shows one such preferred controller, 39. |
| | | | Page 157 lines 5-7. | Buffer, 39C, and processor, 39D, are the second buffer and processor and perform protocol conversion functions. |
| | | | Page 14 lines 22-25. | In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction. |
| a controller operatively connected to said processor, said controller receiving said information transmission from said processor and | Column 19 lines 17-23. | … processor or monitor, **12**, which reacts, in a predetermined fashion by passing also externally to microcomputer, **205**, all signals that it passes to buffer/ comparator, **14**. Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. | Page 435 lines 16-18. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, … |
| | | | Page 267 lines 20-28 from example #5. | All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) |
| | | | Page 436 line 9 to page 437 line 3. | Receiving said Select-WSW-Program- Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, … The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said … enable-WSW-on-CC13… Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW |

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| | | | | information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. |
| | | | Page 439 lines 14-15. | … to receive the transmission of cable channel 13; … |
| detecting the status of a television display, said controller | Column 19 lines 9-12. | When that time comes, microcomputer, **205**, receives no program identification signals whatever from TV signal decoder, **203**, which indicates that the set, **202**, is not on. | Page 444 lines 33-34. | …decoder, 145, to determine, in a predetermined fashion, that power is not on to monitor, 202M, and to respond by…. |
| at least one of (i) routing to said video storage device and (ii) actuating said video storage device to store a selected portion of said information transmission | Column 19 lines 23-27. | … microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X and may instruct control system, **220**, to turn video recorder, **217**, on and record "Wall Street Week,"… | Page 437 lines 1-6. | Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus … |
| | | | Page 439 lines 9-15. | … to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | | | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its… |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | | | Page 439 lines 9-15.<br><br>Page 445 lines 24-27.<br><br>Page 446 lines 18-23. | … to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; …<br><br>… instructions causes controller, 20, …; to switch power on to video recorder/player, 217,….<br><br>… controller, 20, … causes recorder/player, 217, to record said information of the "Wall Street Week" program. |
| depending on the status of said television display. | Column 19 lines 9-12. | When that time comes, microcomputer, **205**, receives no program identification signals whatever from TV signal decoder, **203**, which indicates that the set, **202**, is not on. | Page 444 lines 33-34. | …decoder, 145, to determine, in a predetermined fashion, that power is not on to monitor, 202M, and to respond by…. |

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| 3. A method for processing an event signal at | Column 7 lines 50-58. | Processor or monitor, **12**, analyzes, in a pre-determined fashion, the signal words and units that it receives and determines whether they are to be passed to external equipment or to buffer/comparator, **14**, for further processing or both. If a signal or signals are to be passed externally, processor unit, **12**, identifies, in a pre-determined fashion, the external equipment to which the signal or signals are addressed and passes them to appropriate jack ports for external transmission. | Page 31 lines 10-18. | Controller, 12, receives the signals inputted from buffer/comparator, 8, and decryptor, 10; analyzes said signals in a predetermined fashion; and determines whether they are to be transferred to external equipment or to buffer/comparator, 14, or both. If a signal or signals are to be transferred externally, in a predetermined fashion controller, 12, identifies the external apparatus to which the signal or signals are addressed and transfers them to the appropriate port or ports for external transmission. |
| a programmable receiver station, said programmable receiver station having | Column 8 lines 20-27. | The signal processor apparatus also has a controller device which includes programable random access memory controller **20**, read only memory **21** that may contain a unique digital code capable of identifying the signal processing apparatus uniquely, an automatic dialing device **24**, and a telephone unit, **22**. The controller, **20**, governs the operation of all | Page 33 lines 7-20. | Signal processor, 26, has a controller device which includes programmable RAM controller, 20; ROM, 21, that may contain unique digital code information capable of identifying signal processor, 26, and the subscriber station of said processor, 26, uniquely; an automatic dialing device 24; and a telephone unit, 22. … Controller, 20, has capacity for controlling the operation of all |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | | operating elements of the apparatus. | | elements of the signal processor … |
| a receiver, | Column 9 lines 53-55. | The local oscillator, being thus sequenced, will allow each signal decoder, **30** and **40**, to receive a particular frequency at a particular time interval. | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 …<br>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | | | Page 265 line 27 to Page 266 line 21. | Said radio-detection-complete information causes … controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 …<br>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, … causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. |
| a tuner, a tuner controller, | Column 9 lines 47-52. | The controller, **20**, is programed to sequence the local oscillator, **6**, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to | Page 248 line 17 to page 249 line 5. | Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies |

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| | | exist on that transmission line or frequency. | | … In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. |
| | | | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 …<br>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| a detector, | Column 9 lines 55-57. | This will define the timing of the composite outputs of the digital detectors, **34**, **37**, and **38** in FIG. **2A**, and **43** in FIG. **2B**. | Page 250 lines 13-17. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command. |
| | | | Page 251 lines 8-11. | Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; … |
| | | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, |

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| | | | | which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. |
| | | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| a processor, and | Column 6 lines 23-26. | A signal processor apparatus for simultaneous use with a cablecast input that conveys both television and radio programing and a broadcast television input is shown in Figure **1**. | Page 29 lines 4-7. | Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input. |
| a storage device, said tuner controller receiving instructions from said processor to control tuner frequency and to select event signals, said detector for receiving digital signals, said method comprising the steps of: | Column 7 lines 36-37. | Buffer/comparator, **8**, organizes the data stream that it receives according to a pre-determined fashion … | Page 30 lines 7-9. | Buffer/comparator, 8, receives said signals from said decoders and other signals from other inputs and organizes the received information in a predetermined fashion. |
| | | | Page 36 line 32 to page 37 line 3. | Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities. Said buffer capacity of controller, 39, 44, or 47, includes capacity for … organizing, … inputs …. |
| informing said programmable receiver station of an event signal; | Column 8 line 68 to column 9 line 4. | Buffer/comparator, 8, and monitor or processor, 12, each have the capacity to inform controller, 20, when signals that they are **instructed** to look for in predetermined fashions, set by and changeable by controller, 20, fail to appear. | Page 33 lines 18-21. | … is described more fully below. Controller, 20, has capacity for controlling the operation of all elements of the signal processor and can receive operating information from said elements. Controller, 20, has capacity to turn off any … |
| | | | For example, page 300 line 32 to page 301 line 1. | … program instructions, to cause the control processor, 39J, of decoder, 30, to transfer to controller, 20, selected information of said check sequence of binary information and compare said selected information to selected information of said 1st-stage-enable-WSW-program instructions … |
| | | | with respect to Page 301 lines 6-11. | At each station where a match fails to occur—which indicates that a decryptor, 224, is not |

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| | | | | decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with—not resulting in a match causes the controller, 20, … |
| detecting the absence of said event signal based on said step of informing; | Column 8 line 68 to column 9 line 4. | Buffer/comparator, 8, and monitor or processor, 12, each have the capacity to inform controller, 20, when signals that they are instructed to look for in predetermined fashions, set by and changeable by controller, 20, **fail to appear**. | Page 33 lines 18-21. | … is described more fully below. Controller, 20, has capacity for controlling the operation of all elements of the signal processor and can receive operating information from said elements. Controller, 20, has capacity to turn off any … |
| | | | For example, page 300 line 32 to page 301 line 1. | … program instructions, to cause the control processor, 39J, of decoder, 30, to transfer to controller, 20, selected information of said check sequence of binary information and compare said selected information to selected information of said 1st-stage-enable-WSW-program instructions … |
| | | | with respect to Page 301 lines 6-11. | At each station where a match fails to occur—which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with—not resulting in a match causes the controller, 20, … |
| reacting, under said processor control, based on said step of detecting; | Column 8 line 68 to column 9 line 4. | Buffer/comparator, 8, and monitor or processor, 12, each have the capacity to **inform** controller, 20, when signals that they are instructed to look for in predetermined fashions, set by and changeable by controller, 20, fail to appear. | Page 33 lines 18-21. | … is described more fully below. Controller, 20, has capacity for controlling the operation of all elements of the signal processor and can receive operating information from said elements. Controller, 20, has capacity to turn off any … |
| | | | For example, page 300 line 32 to page 301 line 1. | … program instructions, to cause the control processor, 39J, of decoder, 30, to transfer to controller, 20, selected information of said check sequence of binary information and compare said selected information to selected information of said 1st-stage-enable-WSW-program instructions … |

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| | Reference | Language | Reference | Language |
| | | | with respect to Page 301 lines 6-11. | At each station where a match fails to occur—which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with—not resulting in a match causes the controller, 20, … |
| | Column 8 lines 27-29. | The controller, **20**, inputs the local oscillator, **6**, a sequential pattern to select the various channels to be received by switch, **1**, and mixers, **2** and **3**. | Page 248 line 35 to page 249 line 5. | In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. |
| | *For example* Column 4 lines 36-46. | In addition, the pattern of the composition, timing, and location of the signals may vary in such ways that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly. | *For example* Page 13 lines 19-24. | [The means and methods of this invention] also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly. |
| | | Both the arrangement of signal units in signal words and the locations, timings, and lengths of signal words in individual transmissions or groups of transmissions may vary in fashions that can only be interpreted accurately by apparatus that are preprogramed with the keys to such variations. | Page 14 lines 13-25. | In television audio, [signals] are likely to lie between eight and fifteen kilohertz. In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming in the conventional transmission stream but will include instructions that receiver station apparatus are preprogrammed to process that instruct receiver apparatus to separate the signals from the conventional programming and process them differently. In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction. |
| | | | Page 60 line 19 to page 61 line 1. | SPAM messages are composed of elements--headers, execution segments, |

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| | | | | meter-monitor segments, and information segments--whose bit lengths vary. SPAM apparatus determine the bit length of said elements in different fashions, and the particular fashion that applies to any given element relates to the priority of said element for subscriber station speed of processing. First priority segment information has the highest priority for speedy processing and is of fixed binary bit length. A SPAM header is one example of a first priority segment. An execution segment is another example. Intermediate priority segment information has lower priority, varies in bit length, but contains internal length information. A Meter-monitor segment is one example of an intermediate priority segment. Lowest priority segment information has the lowest priority, varies in length, and contains no internal information for determining segment length. Each information segment is an example of a lowest priority segment. |
| | | | Page 91 lines 18-20. | All subscriber station apparatus are fully preprogrammed to perform automatically each step of each example. No manual step is required at any station. |
| locating said event signal based on said step of reacting; and | Column 9 lines 47-57. | The controller, **20**, is programed to sequence the local oscillator, **6**, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency. | Page 248 line 17 to page 249 line 5. | Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies … In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. |

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| | | | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 …<br>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | | The local oscillator, being thus sequenced, will allow each signal decoder, **30** and **40**, to receive a particular frequency at a particular time interval. | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 …<br>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | | | Page 265 line 27 to Page 266 line 21. | Said radio-detection-complete information causes … controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection |

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| | | | | pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 …<br>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, … causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. |
| | | This will define the timing of the composite outputs of the digital detectors, **34**, **37**, and **38** in FIG. **2A**, and **43** in FIG. **2B**. | Page 250 lines 13-17. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command. |
| | | | Page 251 lines 8-11. | Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; … |
| | | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. |
| | | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| | *For example*<br>Column 4 lines 40-46. | Both the arrangement of signal units in signal words and the locations, timings, and lengths of signal words in individual transmissions or groups of transmissions may vary in fashions that can only be | *For example*<br>Page 13 lines 19-24. | They also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns |

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| | | interpreted accurately by apparatus that are preprogramed with the keys to such variations. | | that obtain at any given time will be able to process the signals correctly. |
| | | | Page 14 lines 10-25. | … [signals] will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear. In television audio, they are likely to lie between eight and fifteen kilohertz. In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming in the conventional transmission stream but will include instructions that receiver station apparatus are preprogrammed to process that instruct receiver apparatus to separate the signals from the conventional programming and process them differently. In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction. |
| | | | Page 60 line 19 to page 61 line 1. | SPAM messages are composed of elements—headers, execution segments, meter-monitor segments, and information segments--whose bit lengths vary. SPAM apparatus determine the bit length of said elements in different fashions, and the particular fashion that applies to any given element relates to the priority of said element for subscriber station speed of processing. First priority segment information has the highest priority for speedy processing and is of fixed binary bit length. A SPAM header is one example of a first priority segment. An execution segment is another example. Intermediate priority segment information has lower priority, varies in bit length, but contains internal length information. A |

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| | | | | Meter-monitor segment is one example of an intermediate priority segment. Lowest priority segment information has the lowest priority, varies in length, and contains no internal information for determining segment length. Each information segment is an example of a lowest priority segment. |
| | | | Page 91 lines 18-20. | All subscriber station apparatus are fully preprogrammed to perform automatically each step of each example. No manual step is required at any station. |
| | Column 19 lines 45-49 | | | |
| processing said event signal based on said step of locating. | Column 7 lines 6-11. | If one returns to FIG. **1**, one sees that the three separate lines of information outputted from TV signal decoder, **30**, are then gated to a buffer/comparator, **8**, which also receives other inputs from the other separate receivers comprising similar filters, demodulators, and decoders for other channels of interest. | Page 29 line 33 to page 30 line 5. | Decoder, 30, which is shown in detail in Fig. 2A, and decoder, 40, which is shown in Fig. 2B, detect signal information embedded in the respective inputted television and radio frequencies, … and output said signals and said modified signals to buffer/comparator, 8. |
| | Column 7 lines 47-49. | Buffer/comparator, **8**, passes signal words and units not identified as requiring decryption directly to processor or monitor, **12**. | Page 30 lines 29-30. | Buffer/comparator, 8, transfers signals that do not require decryption directly to processor or controller, 12. |
| | Column 7 lines 50-58. | Processor or monitor, **12**, analyzes, in a pre-determined fashion, the signal words and units that it receives and determines whether they are to be passed to external equipment or to buffer/comparator, **14**, for further processing or both. If a signal or signals are to be passed externally, processor unit, **12**, identifies, in a pre-determined fashion, the external equipment to which the signal or signals are addressed and passes them to appropriate jack ports for external transmission. | Page 31 lines 10-18. | Controller, 12, receives the signals inputted from buffer/comparator, 8, and decryptor, 10; analyzes said signals in a predetermined fashion; and determines whether they are to be transferred to external equipment or to buffer/comparator, 14, or both. If a signal or signals are to be transferred externally, in a predetermined fashion controller, 12, identifies the external apparatus to which the signal or signals are addressed and transfers them to the appropriate port or ports for external transmission. |
| | Column 19 lines 17-23. | … processor or monitor, **12**, which reacts, in a predetermined fashion by passing also externally to microcomputer, **205**, all signals that it passes to buffer/ comparator, **14**. Analyzing these identifier signals in a | Page 435 lines 16-18.<br><br>Page 267 lines 20-28 | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, …<br><br>All eight of said messages are commands. |

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| | | predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. | from example #5. | The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) |
| | | | Page 436 line 9 to page 437 line 3. | Receiving said Select-WSW-Program- Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, … The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said … enable-WSW-on-CC13… <br>Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance. <br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. |
| | | | Page 439 lines 14-15. | … to receive the transmission of cable channel 13; … |

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| 4. The method of claim 3, wherein said step of informing, further comprises at least one of the steps of the group consisting of: | Column 19 lines 5-9. | … microcomputer, **205** may be preinformed that a certain television program, hypothetically "Wall Street Week," should be televised on TV set, **202**, when it is cablecast. Microcomputer, **205**, is preinformed of the time of cablecasting. | Page 428 lines 21-26. | The program-unit-of-interest information preprogrammed at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular specific-WSW information that reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. |
| | | | Page 437 lines 1-3. | Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20. |
| informing said programmable receiver station of at least one of a time and a channel of said event signal; | Column 19 lines 8-9. | Microcomputer, **205**, is preinformed of the time of cablecasting. | Page 437 lines 1-3. | Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20. |
| | Column 19 lines 14-15. | … pass all program and channel identifiers on all programing being cablecast on the multi-channel system. | Page 435 lines 16-18. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C … |
| | | | Page 248 lines 22-26 from example #5. | Via a conventional multi- channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2. |
| | | | Page 250 lines 13-16 from example #5. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program … |
| | | | Page 252 lines 15-35 from example #5. | Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said |

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| | | | | control processor, 39J, to transmit a message that consists of … execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment segment) then meter-monitor segment information that includes the **"program unit identification code"** and subject matter information of said first command and **the channel mark of cable channel 13** … (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, … |
| | | | Page 267 lines 20-28 from example #5. | All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) |
| | Column 19 lines 17-23. | … processor or monitor, **12**, which reacts, in a predetermined fashion by passing also externally to microcomputer, **205**, all signals that it passes to buffer/ comparator, **14**. Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. | Page 435 lines 16-18.<br><br>Page 267 lines 20-28 from example #5. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, …<br><br>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. |

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| | | | | Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) |
| | | | Page 436 line 9 to page 437 line 3. | Receiving said Select-WSW-Program- Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, … The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said … enable-WSW-on-CC13… Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance. Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. |
| | | | Page 439 lines 14-15. | … to receive the transmission of cable channel 13; … |
| | Column 19 lines 5-8. | In another example, microcomputer, **205** may be preinformed that a certain television program, hypothetically "Wall | Page 428 lines 21-26. | The program-unit-of-interest information preprogrammed at the microcomputer, 205, of the station of Figs. 7 and 7C includes |

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| | | Street Week," should be televised on TV set, **202**, when it is cablecast. | | particular specific-WSW information that reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. |
| informing said programmable receiver station of at least one of a title and a subject matter of said event signal; | Column 19 lines 5-8. | In another example, microcomputer, **205** may be preinformed that a certain television program, hypothetically "Wall Street Week," should be televised on TV set, **202**, when it is cablecast. | Page 428 lines 21-26. | The program-unit-of-interest information preprogrammed at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular specific-WSW information that reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. |
| | Column 18 lines 46-48. | … microprocessor, **205**, is programed to hold a portfolio of stocks and to receive news about these particular stocks and about the industries they are in. | Page 420 lines 3-6. | The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks and to receive and process automatically news items about said stocks and about the industries of said stocks. |
| programming said programmable receiver station to process said event signal; and | Column 18 lines 46-48. | … microprocessor, **205**, is programed to hold a portfolio of stocks and to receive news about these particular stocks and about the industries they are in. | Page 420 lines 3-6. | The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks and to receive and process automatically news items about said stocks and about the industries of said stocks. |
| detecting at least one of code and a datum that at least one of | Column 2 lines 63-66. | (The term "signal unit" hereinafter means **one complete signal instruction** or information **message unit**. Examples of signal units are a unique code identifying a programing unit, or a … | Page 14 lines 27-29. | (The term "signal unit" hereinafter means **one complete signal instruction** or information **message unit**. Examples of signal units are a unique code identifying a programming unit, or a … |
| | Column 3 lines 3-8. | The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. | Page 14 line 32 to page 15 line 2. | The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. |
| designates and | Column 4 lines 5-6. | These techniques employ signals embedded in programs. | Page 13 lines 25-26. | The present invention employs signals embedded in programming. |
| identifies said event signal. | Column 19 lines 14-15. | … pass all program and channel identifiers on all programing being cablecast on the | Page 435 lines 16-18. | In due course, while scanning sequentially all channels in the fashion of example #5, the |

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| | | multi-channel system. | | apparatus of the signal processor, 200, of the station of Fig. 7 and 7C … |
| | | | Page 248 lines 22-26 from example #5. | Via a conventional multi- channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2. |
| | | | Page 250 lines 13-16 from example #5. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program … |
| | | | Page 252 lines 15-35 from example #5. | Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of … execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment segment) then meter-monitor segment information that includes the **"program unit identification code"** and subject matter information of said first command and **the channel mark of cable channel 13** … (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, … |

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| | | | Page 267 lines 20-28 from example #5. | All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) |
| 5. The method of claim 3, wherein said event signal designates programming | Column 19 lines 20-25. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X … | Page 436 line 9 to page 437 line 6. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, … The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said … enable-WSW-on-CC13 …<br>Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW- |

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| | | | | on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus … |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | | | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its… |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| to be displayed at a television monitor, said method further comprising one step of the group consisting of: | Column 19 lines 27-29. | …and also microcomputer, **205**, may instruct switch, **216**, to turn TV set, **202**, on and tuner, **215**, to tune appropriately to "Wall Street Week." | Page 445 line 24 to page 446 line 1. | … instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; … Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. |
| | | | Page 446 lines 17-21. | In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio … |
| | Column 19 line 53-56. | Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured. | Page 25 lines 26-33. | During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated |

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| | | | | graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M. |
| receiving television programming based on said step of locating; | Column 19 lines 20-25. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X … | Page 436 line 9 to page 437 line 6. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, … The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said … enable-WSW-on-CC13 …<br>Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus … |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | | | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of |

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| | | | | cable channel 13, thereby causing its associated converter box, 201, to convert its… |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| actuating said television monitor based on said step of processing; | Column 19 lines 27-29. | …and also microcomputer, **205**, may instruct switch, **216**, to turn TV set, **202**, on and tuner, **215**, to tune appropriately to "Wall Street Week." | Page 445 line 24 to page 446 line 1. | … instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; … Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. |
| | | | Page 446 lines 17-21. | In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio … |
| | Column 19 lines 20-23. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. | Page 267 lines 20-28 from example #5. | All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) |
| | | | Page 435 lines 16-25. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM |

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| | | | | message of the station of Fig. 6 … Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station. |
| | | | Page 436 line 9 to page 437 line 3. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information. Executing said determine-whether-to-select instructions causes microcomputer, 205, to… Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance. Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20. |
| | | | Page 439 lines 14-15. | …to receive the transmission of cable channel 13;… |
| communicating | Column 19 lines 20-25. | Analyzing these identifier signals in a | Page 436 line 9 to | Receiving said Select-WSW-Program-Unit |

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| television programming to at least one device based on said step of processing; | | predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X … | page 437 line 6. | message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, … The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said … enable-WSW-on-CC13 …<br>Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus … |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | | | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its… |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said |

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| | Reference | Language | Reference | Language |
| | | | | station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| detecting digital data in a television signal | Column 19 lines 60-65. | At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission. This signal is identified by **decoder**, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, … | Page 25 line 33 to page 26 line 2.<br><br>Page 37 line 26 to page 38 line 8.<br><br>Page 26 line 4. | At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed …<br><br>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to … correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; … to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.<br><br>Said signal instructs microcomputer, 205, … |
| | Column 6 lines 48-50.<br><br>Column 3 lines 3-8. | This base band signal is then transmitted through separate paths to three separate detector devices.<br>The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits | Page 34 line 35 to page 35 line 1.<br><br>Page 14 line 32 to page 15 line 2. | This base band signal is then transferred through separate paths to three separate detector devices.<br>The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded |

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| | | encoded together on a single line of video or sequentially in audio. | | together on a single line of video or sequentially in audio. |
| based on said step of processing; | Column 19 lines 20-25. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X … | Page 436 line 9 to page 437 line 6. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, … The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said … enable-WSW-on-CC13 …<br>Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus … |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | | | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its |

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| | | | Page 439 lines 9-15. | associated converter box, 201, to convert its... <br><br> ...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... |
| inputting to a computer, digital data received from a remote source | Column 19 lines 60-65. | At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission. This signal is identified by decoder, **203**, and transferred via processor, **204**, to microcomputer, **205**. This signal instructs microcomputer, **205**, ... | Page 25 line 33 to page 26 line 2. | At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ... |
| | | | Page 37 line 26 to page 38 line 8. <br><br> Page 26 line 4. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. <br><br> Said signal instructs microcomputer, 205, ... |
| | Column 3 lines 3-8. | The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits | Page 14 line 32 to page 15 line 2. | The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded |

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| | | encoded together on a single line of video or sequentially in audio. | | together on a single line of video or sequentially in audio. |
| based on said step of processing; and | Column 19 lines 20-25. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X ... | Page 436 line 9 to page 437 line 6. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...<br>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ... |
| | | | Page 439 lines 9-15. | ...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... |
| | | | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its |

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| | | | | associated converter box, 201, to convert its... |
| | | | Page 439 lines 9-15. | ...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... |
| storing television programming at said storage device | Column 19 lines 23-25. | ... microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X ... | Page 437 lines 1-6. | Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ... |
| | | | Page 439 lines 9-15. | ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... |
| | | | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its... |
| | | | Page 439 lines 9-15. | ...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... |
| based on said step of processing. | Column 19 lines 20-25. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X ... | Page 436 line 9 to page 437 line 6. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...<br>Said instructions contain one instance, and ... program-unit-of-interest information that is |

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| | | | | preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus … |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | | | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its… |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| 6. The method of claim 3, further comprising the steps of:<br>instructing a computer based on said | Column 19 lines 18-20. | [processor or monitor, **12**, reacts] … in a predetermined fashion by passing also externally to microcomputer, **205**, all signals that it passes to buffer/ comparator, **14**. | Page 435 lines 16-18.<br><br>Page 267 lines 20-28 | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, …<br><br>All eight of said messages are commands. |

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| step of reacting; and | | | from example #5.<br><br>Page 268 line 28 to page 269 line 12 from example #5. | The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)<br><br>In example #5, controller, 12, is preprogrammed to process monitor information, and completing the controlled functions invoked by any given message causes controller, 12, automatically to process the information of said message as monitor information, in the fashion of controller, 39, of decoder, 203, in example #3. … Automatically, control processor, 12J, transfers to buffer/comparator, 14, via matrix switch, 12 I, header information that identifies a transmission of monitor information of available programming then all of the information that is recorded at said SPAM-input-signal memory. (In each example #5 case, the information that is transferred--together with its newly added header information--continues to be called by its previously assigned name; for example, the 1st-old-radio-program-message (#5).) |
| instructing said computer | Column 19 lines 45-49. | When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, **203**, and transferred to microcomputer, **205**. These signals instruct microcomputer, **205** … | Page 451 lines 6-7.<br><br>Page 23 line 35 to page 24 line 4. | When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, …<br><br>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. |

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| | Reference | Language | Reference | Language |
| | | | Page 37 line 26 to page 38 line 8. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed … to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. |
| | | | Page 24 lines 5-6. | Microcomputer, 205, evaluates the initial signal word or words which instruct it to … |
| | | | Page 451 lines 7-9. | … the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to … |
| based on said step of processing. | Column 19 lines 23-25. | … microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X … | Page 437 lines 1-6. | Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus … |
| | | | Page 439 lines 9-15. | … to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | | | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its… |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; |

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| | Reference | Language | Reference | Language |
| | | | | … |
| 7. The method of claim 3, wherein said processor reacts by passing at least one signal, said method further having one step of the group consisting of: | Column 19 lines 18-20. | [processor or monitor, **12**, reacts] … in a predetermined fashion by passing also externally to microcomputer, **205**, all signals that it passes to buffer/ comparator, **14**. | Page 435 lines 16-18.<br><br>Page 267 lines 20-28 from example #5.<br><br>Page 268 line 28 to page 269 line 12 from example #5. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, …<br><br>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)<br><br>In example #5, controller, 12, is preprogrammed to process monitor information, and completing the controlled functions invoked by any given message causes controller, 12, automatically to process the information of said message as monitor information, in the fashion of controller, 39, of decoder, 203, in example #3. … Automatically, control processor, 12J, transfers to buffer/comparator, 14, via matrix switch, 12 I, header information that identifies a transmission of monitor information of available programming then all of the information that is recorded at said SPAM-input-signal memory. (In each example #5 case, the information that is transferred--together with its newly added header information--continues to be called by its previously assigned name; for example, the 1st-old-radio-program-message (#5).) |
| locating at least one signal word in a | Column 9 lines 47-57. | The controller, **20**, is programed to sequence the local oscillator, **6**, to select | Page 248 line 17 to page 249 line 5. | Signal processor, 200, is preprogrammed with information that identifies each cable and |

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| transmission; and | | each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency. | | over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies … In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. |
| | | | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 …<br>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | | The local oscillator, being thus sequenced, will allow each signal decoder, **30** and **40**, to receive a particular frequency at a particular time interval. | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 …<br>Controller, 20, has capacity for keeping |

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| | | | | track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | | | Page 265 line 27 to Page 266 line 21. | Said radio-detection-complete information causes … controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 …<br>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, … causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. |
| | | This will define the timing of the composite outputs of the digital detectors, **34**, **37**, and **38** in FIG. **2A**, and **43** in FIG. **2B**. | Page 250 lines 13-17. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command. |
| | | | Page 251 lines 8-11. | Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; … |
| | | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with |

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| | | | | error correcting bit information of said command and transfers said binary and bit information to controller, 44. |
| | | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| | Column 3 lines 3-8. | The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. | Page 14 line 32 to page 15 line 2. | The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. |
| | *For example* Column 4 lines 36-40. | In addition, the pattern of the composition, timing, and **location** of the signals may vary in such ways that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly. | *For example* Page 13 lines 19-24. | They also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly. |
| assembling a signal based on at least one signal word, said signal to be passed. | Column 7 lines 36-39. | Buffer/comparator, 8, organizes the data stream that it receives according to a pre-determined fashion that enables buffer/comparator, 8, among other things, to **assemble** signal units from signal words. | Page 14 lines 22-25. | In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must **assemble** in order to receive one complete instruction. |
| | Column 2 lines 63-64. | (The term "signal unit" hereinafter means **one complete signal instruction** or information message unit. | Page 21 lines 14-19 | Decoder, 203, is preprogrammed to detect digital information on a particular line or lines (such as line 20) of the vertical interval of its video transmission input; to correct errors in said information; to convert said corrected information into digital signals usable by microcomputer, 205; and to input said signals to microcomputer, 205, at its … |
| | Column 3 lines 3-8. | The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. | | |

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| 8. The method of claim | Column 19 lines 43-44. | … instruction signals embedded in the | Page 21 lines 23-24. | … instruction signals embedded in the "Wall |

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| 3, wherein said event signal designates | | "Wall Street Week" programing transmission. | | Street Week" programming transmission. |
| multimedia programming | Column 18 lines 43-45. | Figure **6C** illustrates methods for monitoring multiple programing channels and selecting programing and information in a predetermined fashion. | Page 419 line 34 to Page 420 line 2. | Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information. |
| to present, said method further comprising one step of the group consisting of: | Column 19 lines 60 to page 20 line 2. | At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission. This signal is identified by decoder, **203**, and transferred via processor, **204**, to microcomputer, **205**. This signal instructs microcomputer, **205**, to transmit the first overlay to TV set, **202**, for as long as it receives the same instruction signal from processor, **204**. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic. | Page 25 line 34 to page 26 line 2.<br><br>Page 37 line 26 to page 38 line 8.<br><br>Page 26 lines 4-11. | At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; …<br><br>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed … to correct errors … by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; … to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus …<br><br>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. |

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| | | | Page 451 line 3. | And the Fig. 1C combining is displayed. |
| receiving programming based on said step of locating; | Column 19 lines 20-25. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X … | Page 436 line 9 to page 437 line 6. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, … The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said … enable-WSW-on-CC13 …<br>Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus … |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | | | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its |

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| | | | | associated converter box, 201, to convert its… |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| actuating an output device | Column 19 lines 27-28. | … and also microcomputer, **205**, may instruct switch, **216**, to turn TV set, **202**, on … | Page 445 line 24 to page 446 line 1. | …instructions causes controller, 20, to switch power on to monitor, 202M, … Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, … |
| based on said step of processing; | Column 19 lines 20-23. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. | Page 267 lines 20-28 from example #5. | All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) |
| | | | Page 435 lines 16-25. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 … Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station. |
| | | | Page 436 line 9 to page 437 line 3. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The |

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| | | | | information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.<br>Executing said determine-whether-to-select instructions causes microcomputer, 205, to… Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20. |
| | | | Page 439 lines 14-15. | …to receive the transmission of cable channel 13;… |
| communicating programming from at least one device | Column 19 lines 27-29. | …and also microcomputer, **205**, may instruct switch, **216**, to turn TV set, **202**, on and tuner, **215**, to tune appropriately to "Wall Street Week." | Page 445 line 24 to page 446 line 1. | … instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; … Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. |
| | | | Page 446 lines 17-21. | In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and |

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| | | | | audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio … |
| | Column 19 line 53-56. | Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured. | Page 25 lines 26-33. | During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M. |
| based on said step of processing; | Column 19 lines 20-23. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. | Page 267 lines 20-28 from example #5. | All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) |
| | | | Page 435 lines 16-25. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 … Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station. |
| | | | Page 436 line 9 to page 437 line 3. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, and to cause |

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| | | | | said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.<br>Executing said determine-whether-to-select instructions causes microcomputer, 205, to… Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20. |
| | | | Page 439 lines 14-15. | …to receive the transmission of cable channel 13;… |
| detecting digital data | Column 19 lines 27-29. | …and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week." | Page 445 line 24 to page 446 line 1. | … instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; … Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. |

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| | | | Page 446 lines 17-21. | In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio … |
| | Column 19 lines 45-49. | When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by **decoder**, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205 … | Page 451 lines 6-7. | When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, … |
| | | | Page 23 line 35 to page 24 line 4. | Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. |
| | | | Page 37 line 26 to page 38 line 8. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed … to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. |
| | | | Page 24 lines 5-6. | Microcomputer, 205, evaluates the initial signal word or words which instruct it to … |
| | | | Page 451 lines 7-9. | … the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to … |
| | Column 6 lines 48-50. | This base band signal is then transmitted through separate paths to three separate detector devices. | Page 34 line 35 to page 35 line 1. | This base band signal is then transferred through separate paths to three separate detector devices. |
| | Column 3 lines 3-8. | The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits | Page 14 line 32 to page 15 line 2. | The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded |

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| | | encoded together on a single line of video or sequentially in audio. | | together on a single line of video or sequentially in audio. |
| in a transmission based on said step of processing; | Column 19 lines 20-23. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. | Page 267 lines 20-28 from example #5. | All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) |
| | | | Page 435 lines 16-25. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 …<br>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station. |
| | | | Page 436 line 9 to page 437 line 3. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.<br>Executing said determine-whether-to-select instructions causes microcomputer, 205, to… Said instructions contain one instance, and … program-unit-of-interest information that is |

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| | | | | preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. |
| | | | Page 439 lines 14-15. | …to receive the transmission of cable channel 13;… |
| inputting to a computer a plurality of control signals | Column 19 lines 45-49. | When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, **203**, and transferred to microcomputer, **205**. These signals instruct microcomputer, **205** … | Page 451 lines 6-7. | When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, … |
| | | | Page 23 line 35 to page 24 line 4. | Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. |
| | | | Page 37 line 26 to page 38 line 8. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed … to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. |
| | | | Page 24 lines 5-6. | Microcomputer, 205, evaluates the initial |

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| | | | | signal word or words which instruct it to … |
| | | | Page 451 lines 7-9. | … the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to … |
| | Column 19 lines 60-66. | At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission. This signal is identified by decoder, **203**, and transferred via processor, **204**, to microcomputer, **205**. This signal instructs microcomputer, **205**, to transmit the first overlay to TV set, **202**, … | Page 25 line 33 to page 26 line 2.. | Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed … |
| | | | Page 37 line 26 to page 38 line 8. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to … correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; … to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. |
| | | | Page 26 lines 4-8. | Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. |
| based on said step of processing; and | Column 19 lines 20-23. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is | Page 267 lines 20-28 from example #5. | All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) |

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| | | being televised on channel X. | | signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) |
| | | | Page 435 lines 16-25. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 … Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station. |
| | | | Page 436 line 9 to page 437 line 3. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information. Executing said determine-whether-to-select instructions causes microcomputer, 205, to… Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week"* |

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| | | | | *program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. |
| | | | Page 439 lines 14-15. | …to receive the transmission of cable channel 13;… |
| | Column 19 lines 27-29. | …and also microcomputer, **205**, may instruct switch, **216**, to turn TV set, **202**, on and tuner, **215**, to tune appropriately to "Wall Street Week." | Page 445 line 24 to page 446 line 1. | … instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; … Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. |
| | | | Page 446 lines 17-21. | In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio … |
| outputting video programming from | Column 19 line 60 to column 20 line 1. | At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission. This signal is identified by decoder, **203**, and transferred via processor, **204**, to microcomputer, **205**. | Page 25 line 34 to page 26 line 2. | At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; |
| | | | Page 37 line 26 to page 38 line 8. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given |

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| | | This signal instructs microcomputer, **205**, to transmit the first overlay to TV set, **202**, for as long as it receives the same instruction signal from processor, **204**.<br><br>The viewer then sees a microcomputer generated graphic of his own stocks' performance … | Page 26 lines 4-11. | instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to … correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; … to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.<br><br>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences … |
| said storage device | Column 19 lines 39-41. | [Microcomputer, **205**,] records those prices that relate to the stocks in its stored portfolio. | Page 449 lines 13-20. | Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. |
| based on said step of processing. | Column 19 lines 20-23. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is | Page 267 lines 20-28 from example #5. | All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) |

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| | | being televised on channel X. | | signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) |
| | | | Page 435 lines 16-25. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 … Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station. |
| | | | Page 436 line 9 to page 437 line 3. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information. Executing said determine-whether-to-select instructions causes microcomputer, 205, to… Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week"* |

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| | | | | *program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. |
| | | | Page 439 lines 14-15. | ...to receive the transmission of cable channel 13;... |
| | Column 19 lines 27-29. | ...and also microcomputer, **205**, may instruct switch, **216**, to turn TV set, **202**, on and tuner, **215**, to tune appropriately to "Wall Street Week." | Page 445 line 24 to page 446 line 1. | ... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. |
| | | | Page 446 lines 17-21. | In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ... |

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| 9. The method of claim 3, wherein said event signal designates | Column 19 lines 43-44. | ... instruction signals embedded in the "Wall Street Week" programing transmission. | Page 21 lines 23-24. | ... instruction signals embedded in the "Wall Street Week" programming transmission. |
| output information content to be generated, said method further comprising one step of the group consisting of: | Column 19 line 60 to column 20 line 1. | At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission. This signal is identified by decoder, **203**, | Page 25 line 34 to page 26 line 2. | At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, |

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| | | and transferred via processor, **204**, to microcomputer, **205**. | | 205; |
| | | | Page 37 line 26 to page 38 line 8. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to … correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; … to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. |
| | | This signal instructs microcomputer, **205**, to transmit the first overlay to TV set, **202**, for as long as it receives the same instruction signal from processor, **204**.<br><br>The viewer then sees a microcomputer generated graphic of his own stocks' performance … | Page 26 lines 4-11. | Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences … |
| programming a computer to respond to a plurality of control signals detected in an information transmission; | Column 19 lines 42-44. | Microcomputer, **205**, is preprogramed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission. | Page 21 lines 20-24. | Microcomputer, 205, is preprogrammed to … respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission. |
| | Column 19 lines 45-49. | When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, | Page 451 lines 6-7. | When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, … |

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| | | several instruction signals are identified by decoder, **203**, and transferred to microcomputer, **205**. These signals instruct microcomputer, **205** … | Page 23 line 35 to page 24 line 4. | Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. |
| | | | Page 37 line 26 to page 38 line 8. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed … to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. |
| | | | Page 24 lines 5-6. | Microcomputer, 205, evaluates the initial signal word or words which instruct it to … |
| | | | Page 451 lines 7-9. | … the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to … |
| | Column 19 lines 60-66. | At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission. This signal is identified by decoder, **203**, and transferred via processor, **204**, to microcomputer, **205**. This signal instructs microcomputer, **205**, to transmit the first overlay to TV set, **202**, … | Page 25 line 33 to page 26 line 2.. | Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed … |
| | | | Page 37 line 26 to page 38 line 8. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to … correct errors in |

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| | | | | retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; … to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. |
| | | | Page 26 lines 4-8. | Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. |
| receiving an information transmission based on said step of locating; | Column 19 lines 20-25. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X … | Page 436 line 9 to page 437 line 6. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, … The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said … enable-WSW-on-CC13 …<br>Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input |

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| | | | | said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus … |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | | | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its… |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| actuating a device to output said generated output information content | Column 19 lines 27-28. | … and also microcomputer, **205**, may instruct switch, **216**, to turn TV set, **202**, on … | Page 445 line 24 to page 446 line 1. | …instructions causes controller, 20, to switch power on to monitor, 202M, …<br>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, … |
| | Column 19 line 60 to column 20 line 1. | At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission. This signal is identified by decoder, **203**, and transferred via processor, **204**, to microcomputer, **205**. | Page 25 line 34 to page 26 line 2. | At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; |
| | | | Page 37 line 26 to page 38 line 8. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is |

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| | | | | preprogrammed to … correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; … to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. |
| | | This signal instructs microcomputer, **205**, to transmit the first overlay to TV set, **202**, for as long as it receives the same instruction signal from processor, **204**.<br><br>The viewer then sees a microcomputer generated graphic of his own stocks' performance … | Page 26 lines 4-11. | Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences … |
| based on said step of processing; | Column 19 lines 20-23. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. | Page 267 lines 20-28 from example #5.<br><br>Page 435 lines 16-25. | All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)<br><br>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM |

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| | | | | message of the station of Fig. 6 …<br>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station. |
| | | | Page 436 line 9 to page 437 line 3. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.<br>Executing said determine-whether-to-select instructions causes microcomputer, 205, to… Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20. |
| | | | Page 439 lines 14-15. | …to receive the transmission of cable channel 13;… |
| passing digital | Column 19 lines 27-29. | …and also microcomputer, 205, may | Page 445 line 24 to | … instructions causes controller, 20, to switch |

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| | Reference | Language | Reference | Language |
| information to said control signal detector | | instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week." | page 446 line 1. | power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; … Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. |
| | | | Page 446 lines 17-21. | In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio … |
| | Column 19 lines 45-49. | When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by **decoder**, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205 … | Page 451 lines 6-7. | When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, … |
| | | | Page 23 line 35 to page 24 line 4. | Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. |
| | | | Page 37 line 26 to page 38 line 8. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed … to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. |
| | | | Page 24 lines 5-6. | Microcomputer, 205, evaluates the initial signal word or words which instruct it to … |
| | | | Page 451 lines 7-9. | … the program instruction set in the first |

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| | | | | message of the "Wall Street Week" example instructs microcomputer, 205, to … |
| | Column 6 lines 48-50. | This base band signal is then transmitted through separate paths to three separate detector devices. | Page 34 line 35 to page 35 line 1. | This base band signal is then transferred through separate paths to three separate detector devices. |
| based on said step of processing; | Column 19 lines 20-23. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. | Page 267 lines 20-28 from example #5. | All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) |
| | | | Page 435 lines 16-25. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 …<br>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station. |
| | | | Page 436 line 9 to page 437 line 3. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.<br>Executing said determine-whether-to-select |

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| | | | | instructions causes microcomputer, 205, to… Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. |
| | | | Page 439 lines 14-15. | …to receive the transmission of cable channel 13;… |
| detecting a plurality of control signals | Column 19 lines 45-49. | When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by **decoder**, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205 … | Page 451 lines 6-7. | When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, … |
| | | | Page 23 line 35 to page 24 line 4. | Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. |
| | | | Page 37 line 26 to page 38 line 8. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed … to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to |

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| | | | | transfer said signals to said apparatus. |
| | | | Page 24 lines 5-6. | Microcomputer, 205, evaluates the initial signal word or words which instruct it to … |
| | | | Page 451 lines 7-9. | … the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to … |
| | Column 19 lines 60-66. | At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission. This signal is identified by **decoder**, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, … | Page 25 line 33 to page 26 line 2.. | Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed … |
| | | | Page 37 line 26 to page 38 line 8. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to … correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; … to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. |
| | | | Page 26 lines 4-8. | Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. |

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| | Column 6 lines 48-50. | This base band signal is then transmitted through separate paths to three separate detector devices. | Page 34 line 35 to page 35 line 1. | This base band signal is then transferred through separate paths to three separate detector devices. |
| based on said step of processing; | Column 19 lines 20-23. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. | Page 267 lines 20-28 from example #5. | All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) |
| | | | Page 435 lines 16-25. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 …<br>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station. |
| | | | Page 436 line 9 to page 437 line 3. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particu lar-8:30 information.<br>Executing said determine-whether-to-select instructions causes microcomputer, 205, to… Said instructions contain one instance, and … |

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| | | | | program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. |
| | | | Page 439 lines 14-15. | ...to receive the transmission of cable channel 13;... |
| | Column 19 lines 27-29. | ...and also microcomputer, **205**, may instruct switch, **216**, to turn TV set, **202**, on and tuner, **215**, to tune appropriately to "Wall Street Week." | Page 445 line 24 to page 446 line 1. | ... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. |
| | | | Page 446 lines 17-21. | In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ... |
| inputting to a computer a plurality of control signals | Column 19 lines 45-49. | When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, **203**, and transferred to microcomputer, **205**. These signals instruct | Page 451 lines 6-7. | When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ... |
| | | | Page 23 line 35 to page 24 line 4. | Subsequently, a second series of instructions is embedded and transmitted at said program |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | | microcomputer, **205** … | | originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. |
| | | | Page 37 line 26 to page 38 line 8. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed … to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. |
| | | | Page 24 lines 5-6. | Microcomputer, 205, evaluates the initial signal word or words which instruct it to … |
| | | | Page 451 lines 7-9. | … the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to … |
| | Column 19 lines 60-66. | At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission. This signal is identified by decoder, **203**, and transferred via processor, **204**, to microcomputer, **205**. This signal instructs microcomputer, **205**, to transmit the first overlay to TV set, **202**, … | Page 25 line 33 to page 26 line 2.. | Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed … |
| | | | Page 37 line 26 to page 38 line 8. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to … correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be |

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| | | | | required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; … to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. |
| | | | Page 26 lines 4-8. | Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. |
| based on said step of processing; and | Column 19 lines 20-23. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. | Page 267 lines 20-28 from example #5. | All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) |
| | | | Page 435 lines 16-25. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 …<br>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station. |
| | | | Page 436 line 9 to page 437 line 3. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to |

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| | Reference | Language | Reference | Language |
| | | | | the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.<br>Executing said determine-whether-to-select instructions causes microcomputer, 205, to… Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. |
| | | | Page 439 lines 14-15. | …to receive the transmission of cable channel 13;… |
| | Column 19 lines 27-29. | …and also microcomputer, **205**, may instruct switch, **216**, to turn TV set, **202**, on and tuner, **215**, to tune appropriately to "Wall Street Week." | Page 445 line 24 to page 446 line 1. | … instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; … Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. |

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| | | | Page 446 lines 17-21. | In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio … |
| outputting video programming from a computer | Column 19 line 60 to column 20 line 1. | At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission. This signal is identified by decoder, **203**, and transferred via processor, **204**, to microcomputer, **205**. | Page 25 line 34 to page 26 line 2. | At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; |
| | | | Page 37 line 26 to page 38 line 8. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to … correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; … to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. |
| | | This signal instructs microcomputer, **205**, to transmit the first overlay to TV set, **202**, for as long as it receives the same instruction signal from processor, **204**. | Page 26 lines 4-11. | Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the |

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| | | The viewer then sees a microcomputer generated graphic of his own stocks' performance ... | | subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences ... |
| based on said step of processing. | Column 19 lines 20-23. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. | Page 267 lines 20-28 from example #5.<br><br>Page 435 lines 16-25.<br><br>Page 436 line 9 to page 437 line 3. | All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)<br><br>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...<br>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.<br><br>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.<br>Executing said determine-whether-to-select |

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| | | | | instructions causes microcomputer, 205, to… Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. |
| | | | Page 439 lines 14-15. | …to receive the transmission of cable channel 13;… |
| | Column 19 lines 27-29. | …and also microcomputer, **205**, may instruct switch, **216**, to turn TV set, **202**, on and tuner, **215**, to tune appropriately to "Wall Street Week." | Page 445 line 24 to page 446 line 1. | … instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; … Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. |
| | | | Page 446 lines 17-21. | In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio … |

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| 10. A method for | Column 19 lines 20-25. | Analyzing these identifier signals in a | Page 436 line 9 to | Receiving said Select-WSW-Program-Unit |

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| processing an event signal at | | predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X … | page 437 line 6. | message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, … The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said … enable-WSW-on-CC13 …<br>Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus … |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | | | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its… |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said |

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| | Reference | Language | Reference | Language |
| | | | | station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| a programmable receiver station, said programmable receiver station having | Column 19 lines 42-44. | Microcomputer, **205**, is preprogramed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission. | Page 21 lines 20-24. | Microcomputer, 205, is preprogrammed to … respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission. |
| a receiver, | Column 19 lines 28-29. | …and tuner, **215**, to tune appropriately to "Wall Street Week." | Page 445 line 35 to page 446 line 1.<br><br>Page 446 lines 17-21. | … and to tune monitor, 202M, in a predetermined fashion.<br><br>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio…. |
| a detector, | Column 9 lines 53-57. | The local oscillator, being thus sequenced, will allow each signal decoder, **30** and **40**, to receive a particular frequency at a particular time interval. | Page 257 line 24 to page 258 line 19.<br><br>Page 265 line 27 to Page 266 line 21. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 …<br>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.<br><br>Said radio-detection-complete information causes … controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency |

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| | | | | and input it, at a fixed frequency, to decoder, 40 …<br>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, … causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. |
| | | This will define the timing of the composite outputs of the digital detectors, **34**, **37**, and **38** in FIG. **2A**, and **43** in FIG. **2B**. | Page 250 lines 13-17. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command. |
| | | | 251 lines 8-11. | Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; … |
| | | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. |
| | | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| a processor, and | Column 19 lines 18-20. | [processor or monitor, **12**, reacts] … in a predetermined fashion by passing also externally to microcomputer, **205**, all signals that it passes to buffer/ comparator, **14**. | Page 435 lines 16-18. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, … |
| | | | Page 267 lines 20-28 from example #5. | All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) |

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| | | | | signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) |
| | | | Page 268 line 28 to page 269 line 12 from example #5. | In example #5, controller, 12, is preprogrammed to process monitor information, and completing the controlled functions invoked by any given message causes controller, 12, automatically to process the information of said message as monitor information, in the fashion of controller, 39, of decoder, 203, in example #3. … Automatically, control processor, 12J, transfers to buffer/comparator, 14, via matrix switch, 12 I, header information that identifies a transmission of monitor information of available programming then all of the information that is recorded at said SPAM-input-signal memory. (In each example #5 case, the information that is transferred--together with its newly added header information--continues to be called by its previously assigned name; for example, the 1st-old-radio-program-message (#5).) |
| an output device, said detector for | Column 19 lines 27-29. | …and also microcomputer, **205**, may instruct switch, **216**, to turn TV set, **202**, on and tuner, **215**, to tune appropriately to "Wall Street Week." | Page 445 line 24 to page 446 line 1. | … instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; … Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. |
| | | | Page 446 lines 17-21. | In so doing, controller, 20, causes monitor, |

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| | | | | 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio … |
| receiving digital signals, said processor for processing signals, said method comprising the steps of: | Column 11 lines 57-64. | Similarly, if controller/computer, **73**, determines that incoming programing should be recorded for delayed transmission, controller/ computer, **73**, selects a video recorder/player, **76** or **78**, in a predetermined fashion, to record the incoming programing, instructs matrix switch, **75**, to transfer the programing to the designated recorder/player, **76** or **78**, … | Page 329 line 2-20. | Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; … and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. |
| | Column 3 lines 3-8. | The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. | Page 14 line 32 to page 15 line 2. | The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. |
| | Column 18 lines 59-63<br>Column 19 lines 5-8 | | | |
| informing said programmable receiver station of | Column 9 lines 47-52. | The controller, **20**, is programed to sequence the local oscillator, **6**, to select each desired frequency for a specific time interval in accordance with a | Page 248 line 17 to page 249 line 5. | Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the |

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| | | predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency. | | subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies … In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. |
| | | | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 …<br>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| a variable event location; | Column 4 lines 36-46. | In addition, the pattern of the composition, timing, and location of the signals may vary in such ways that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly. | Page 13 lines 19-24. | [The means and methods of this invention] also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly. |
| | | Both the arrangement of signal units in signal words and the locations, timings, and lengths of signal words in individual transmissions or groups of transmissions | Page 14 lines 13-25. | In television audio, [signals] are likely to lie between eight and fifteen kilohertz. In broadcast print and data communications transmissions, the signals may accompany |

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| | | may vary in fashions that can only be interpreted accurately by apparatus that are preprogramed with the keys to such variations. | | conventional print or data programming in the conventional transmission stream but will include instructions that receiver station apparatus are preprogrammed to process that instruct receiver apparatus to separate the signals from the conventional programming and process them differently. In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction. |
| | | | Page 60 line 19 to page 61 line 1. | SPAM messages are composed of elements--headers, execution segments, meter-monitor segments, and information segments--whose bit lengths vary. SPAM apparatus determine the bit length of said elements in different fashions, and the particular fashion that applies to any given element relates to the priority of said element for subscriber station speed of processing. First priority segment information has the highest priority for speedy processing and is of fixed binary bit length. A SPAM header is one example of a first priority segment. An execution segment is another example. Intermediate priority segment information has lower priority, varies in bit length, but contains internal length information. A Meter-monitor segment is one example of an intermediate priority segment. Lowest priority segment information has the lowest priority, varies in length, and contains no internal information for determining segment length. Each information segment is an example of a lowest priority segment. |
| | | | Page 91 lines 18-20. | All subscriber station apparatus are fully preprogrammed to perform automatically each step of each example. No manual step is required at any station. |

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| detecting one of the presence and | Column 9 lines 55-57. | This will define the timing of the composite outputs of the digital detectors, **34**, **37**, and **38** in FIG. **2A**, and **43** in FIG. **2B**. | Page 250 lines 13-17. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command. |
| | | | Page 251 lines 8-11. | Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; … |
| | | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. |
| | | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| the absence of | Column 8 line 68 to column 9 line 4. | Buffer/comparator, **8**, and monitor or processor, **12**, each have the capacity to inform controller, **20**, when signals that they … look for in predetermined fashions, set by and changeable by controller, **20**, fail to appear. | Page 258 lines 10-19. | Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, automatically causes control processor, 39J, to cause all apparatus of decoder, 30, cease receiving SPAM message information and delete all information received on said wireless channel 9 and causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| said event signal | Column 4 lines 5-6. | These techniques employ signals embedded in programs. | Page 13 lines 25-26. | The present invention employs signals embedded in programming. |
| based on said step of | Column 9 lines 53-57. | The local oscillator, being thus sequenced, | Page 257 line 24 to | Said detection-complete information causes |

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| | Reference | Language | Reference | Language |
| informing; | | will allow each signal decoder, 30 and 40, to receive a particular frequency at a particular time interval. | page 258 line 19. | controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 … Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | | | Page 265 line 27 to Page 266 line 21. | Said radio-detection-complete information causes … controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 … After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, … causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. |
| | | This will define the timing of the composite outputs of the digital detectors, 34, 37, and 38 in FIG. 2A, and 43 in FIG. 2B. | Page 250 lines 13-17. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command. |
| | | | 251 lines 8-11. | Receiving said embedded information causes |

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| | | | | the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; … |
| | | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. |
| | | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| reacting, under processor control, based on said step of detecting; | If Presence | | **If Presence** | |
| | Column 7 lines 6-11. | If one returns to FIG. 1, one sees that the three separate lines of information outputted from TV signal decoder, 30, are then gated to a buffer/comparator, 8, which also receives other inputs from the other separate receivers comprising similar filters, demodulators, and decoders for other channels of interest. | Page 29 line 33 to page 30 line 5. | Decoder, 30, which is shown in detail in Fig. 2A, and decoder, 40, which is shown in Fig. 2B, detect signal information embedded in the respective inputted television and radio frequencies, … and output said signals and said modified signals to buffer/comparator, 8. |
| | Column 7 lines 47-49. | Buffer/comparator, 8, passes signal words and units not identified as requiring decryption directly to processor or monitor, 12. | Page 30 lines 29-30. | Buffer/comparator, 8, transfers signals that do not require decryption directly to processor or controller, 12. |
| | Column 7 lines 50-58. | Processor or monitor, 12, analyzes, in a pre-determined fashion, the signal words and units that it receives and determines whether they are to be passed to external equipment or to buffer/comparator, 14, for further processing or both. If a signal or signals are to be passed externally, processor unit, 12, identifies, in a pre-determined fashion, the external equipment to which the signal or signals are addressed and **passes them** to appropriate jack ports | Page 31 lines 10-18. | Controller, 12, receives the signals inputted from buffer/comparator, 8, and decryptor, 10; analyzes said signals in a predetermined fashion; and determines whether they are to be transferred to external equipment or to buffer/comparator, 14, or both. If a signal or signals are to be transferred externally, in a predetermined fashion controller, 12, identifies the external apparatus to which the signal or signals are addressed and transfers them to the appropriate port or ports for |

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| | If Absence | for external transmission. | If Absence | external transmission. |
| | Column 8 line 68 to column 9 line 4. | Buffer/comparator, 8, and monitor or processor, 12, each have the capacity to **inform** controller, 20, when signals that they … look for in predetermined fashions, set by and changeable by controller, 20, fail to appear. | Page 258 lines 10-19. | Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, automatically causes control processor, 39J, to cause all apparatus of decoder, 30, cease receiving SPAM message information and delete all information received on said wireless channel 9 and causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | Column 8 lines 27-29. | The controller, **20**, inputs the local oscillator, **6**, a sequential pattern to select the various channels to be received by switch, **1**, and mixers, **2** and **3**. | Page 248 line 35 to page 249 line 5. | In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. |
| | Column 9 lines 53-57. | The local oscillator, being thus sequenced, will allow each signal decoder, **30** and **40**, to receive a particular frequency at a particular time interval. | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 …<br>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |

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| | | | Page 265 line 27 to Page 266 line 21. | Said radio-detection-complete information causes … controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 …<br>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, … causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. |
| | | This will define the timing of the composite outputs of the digital detectors, **34**, **37**, and **38** in FIG. **2A**, and **43** in FIG. **2B**. | Page 250 lines 13-17. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command. |
| | | | 251 lines 8-11. | Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; … |
| | | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. |
| | | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| | Column 7 lines 6-11. | If one returns to FIG. **1**, one sees that the | Page 29 line 33 to page | Decoder, 30, which is shown in detail in Fig. |

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| | | three separate lines of information outputted from TV signal decoder, **30**, are then gated to a buffer/comparator, **8**, which also receives other inputs from the other separate receivers comprising similar filters, demodulators, and decoders for other channels of interest. | 30 line 5. | 2A, and decoder, 40, which is shown in Fig. 2B, detect signal information embedded in the respective inputted television and radio frequencies, … and output said signals and said modified signals to buffer/comparator, 8. |
| | Column 7 lines 47-49. | Buffer/comparator, **8**, passes signal words and units not identified as requiring decryption directly to processor or monitor, **12**. | Page 30 lines 29-30. | Buffer/comparator, 8, transfers signals that do not require decryption directly to processor or controller, 12. |
| processing said event signal based on said step of reacting; and | Column 19 lines 17-23. | … processor or monitor, **12**, which reacts, in a predetermined fashion by passing also externally to microcomputer, **205**, all signals that it passes to buffer/ comparator, **14**. Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. | Page 435 lines 16-18.<br><br>Page 267 lines 20-28 from example #5.<br><br>Page 436 line 9 to page 437 line 3. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, …<br><br>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)<br><br>Receiving said Select-WSW-Program- Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, … The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said … enable-WSW-on-CC13…<br>Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects* |

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| | | | | *the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. |
| | | | Page 439 lines 14-15. | … to receive the transmission of cable channel 13; … |
| outputting programming based on said step of processing. | Column 19 lines 20-25. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X … | Page 436 line 9 to page 437 line 6. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, … The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said … enable-WSW-on-CC13 …<br>Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to |

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| | | | | the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus … |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | | | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its… |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| 11. The method of claim 10, wherein said step of informing said programmable receiver station of | Column 9 lines 47-52. | The controller, **20**, is programed to sequence the local oscillator, **6**, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency. | Page 248 line 17 to page 249 line 5. | Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies … In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. |
| | | | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically |

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| | | | | oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 … <br> Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| said variable event location further comprises at least one step of the group consisting of: | Column 4 lines 36-46. | In addition, the pattern of the composition, timing, and location of the signals may vary in such ways that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly. | Page 13 lines 19-24. | [The means and methods of this invention] also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly. |
| | | Both the arrangement of signal units in signal words and the locations, timings, and lengths of signal words in individual transmissions or groups of transmissions may vary in fashions that can only be interpreted accurately by apparatus that are preprogramed with the keys to such variations. | Page 14 lines 13-25. | In television audio, [signals] are likely to lie between eight and fifteen kilohertz. In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming in the conventional transmission stream but will include instructions that receiver station apparatus are preprogrammed to process that instruct receiver apparatus to separate the signals from the conventional programming and process them differently. In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction. |
| | | | Page 60 line 19 to page 61 line 1. | SPAM messages are composed of elements--headers, execution segments, meter-monitor segments, and information |

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| | | | | segments--whose bit lengths vary. SPAM apparatus determine the bit length of said elements in different fashions, and the particular fashion that applies to any given element relates to the priority of said element for subscriber station speed of processing. First priority segment information has the highest priority for speedy processing and is of fixed binary bit length. A SPAM header is one example of a first priority segment. An execution segment is another example. Intermediate priority segment information has lower priority, varies in bit length, but contains internal length information. A Meter-monitor segment is one example of an intermediate priority segment. Lowest priority segment information has the lowest priority, varies in length, and contains no internal information for determining segment length. Each information segment is an example of a lowest priority segment. |
| | | | Page 91 lines 18-20. | All subscriber station apparatus are fully preprogrammed to perform automatically each step of each example. No manual step is required at any station. |
| informing said programmable receiver station of at least one of an input and | Column 9 lines 47-52. | The controller, 20, is programed to sequence the local oscillator, 6, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency. | Page 248 line 17 to page 249 line 5. | Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies … In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. |
| | | | Page 257 line 24 to | Said detection-complete information causes |

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| | Reference | Language | Reference | Language |
| | | | page 258 line 19. | controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 … Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | Column 6 lines 31-41. | The broadcast transmission is input to switch 1. Switch 1 and mixers 2 and 3 are all controlled by local oscillator and switch control 6. The oscillator, 6, is controlled to provide a number of discrete specified frequencies for the particular radio and television channels required. The switch, 1, acts to select the **broadcast input** or the **cablecast input** and passes transmissions to mixer 3 which, with the controlled oscillator, 6, acts to select a television frequency of interest that is passed at a fixed frequency to a TV signal decoder, 30. | Page 29 lines 16-26. | The broadcast transmission is inputted to switch, 1. Switch, 1, and mixers, 2 and 3, are all controlled by local oscillator and switch control, 6. The oscillator, 6, is controlled to provide a number of discrete specified frequencies for the particular radio and television channels required. The switch, 1, acts to select the broadcast input or the cablecast input and passes transmissions to mixer, 3, which, with the controlled oscillator, 6, acts to select a television frequency of interest that is passed at a fixed frequency to a TV signal decoder, 30. |
| an output of said variable event location; | Column 9 lines 4-8. | Oscillator, **6**, the controller, **20**, and buffer/comparator, **8**, can interact in such a fashion that buffer, **8**, can identify the channel that any given signal is received on and mark the signal for subsequent identification of the channel. | Page 258 lines 17-25. | … said wireless channel 9 and causes scillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. Automatically, oscillator, 6, causes mixer, 3, to select the frequency of channel 13 and input said frequency to decoder, 30. Controller, 20, then transmits a particular preprogrammed wireless-13 instruction to said control processor, 39J, that informs said processor, 39J, wireless channel 13 is inputted to decoder, 30. |

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| | | | Page 260 lines 5-13. | … commence transferring information from control processor, 39J, to buffer/comparator, 8, then to transmit a message that consists of binary information of a "00" header then the execution segment information of the pseudo command then a meter-monitor segment containing said monitor information in RAM (including the associated channel mark and the format information of said information) then any padding bits required to end said message. (Hereinafter, said message is called the "3rd-old-program-message (#5)".) … |
| | | | Page 270 lines 5-12. | Receiving any given old programming message causes onboard controller, 14A, to … determine that the channel mark … in said old programming message matches the channel mark … of a selected monitor information record previously initiated … |
| informing said programmable receiver station of a time to at least one of input and | Column 9 lines 47-52. | The controller, **20**, is programed to sequence the local oscillator, **6**, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency. | Page 248 line 17 to page 249 line 5. | Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies … In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. |
| | | | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said |

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| | | | | frequency of interest, at a fixed frequency, to decoder, 30 … Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | Column 9 lines 53-55. | The local oscillator, being thus sequenced, will allow each signal decoder, 30 and 40, to receive a particular frequency at a particular **time** interval. | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 … Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | | | Page 265 line 27 to Page 266 line 21. | Said radio-detection-complete information causes … controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 … After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, |

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| | | | | … causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. |
| output said variable event location; | Column 9 lines 55-57. | This will define the timing of the composite outputs of the digital detectors, 34, 37, and 38 in FIG. 2A, and 43 in FIG. 2B. | Page 250 lines 13-17. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command. |
| | | | Page 251 lines 8-11. | Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; … |
| | | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. |
| | | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| informing said programmable receiver station of subject matter to | Column 18 lines 48-55. | Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, **222** and **201**, and to signal processor, **200**. The news services preceed each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries. | Page 420 line 21 to page 421 line 7. | Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200. Each remote station transmits each particular news item within the particular |

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| . . . | | | | format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit- News-Item SPAM message . . . <br>In due course, said remote news-service-A station . . . |
| at least one of input and | Column 9 lines 47-57. | The controller, **20**, is programed to sequence the local oscillator, **6**, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency. | Page 248 line 17 to page 249 line 5. | Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies . . . In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. |
| | | | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 . . . <br>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, . . . causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | | The local oscillator, being thus sequenced, will allow each signal decoder, **30** and **40**, to receive a particular frequency at a | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the |

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| | | particular time interval. | | predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 …<br>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | | | Page 265 line 27 to Page 266 line 21. | Said radio-detection-complete information causes … controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 …<br>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, … causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. |
| | | This will define the timing of the composite outputs of the digital detectors, **34**, **37**, and **38** in FIG. **2A**, and **43** in FIG. **2B**. | Page 250 lines 13-17. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command. |
| | | | Page 251 lines 8-11. | Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, |

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| | Reference | Language | Reference | Language |
| | | | | to be detected at detector, 34; … |
| | | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. |
| | | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| | Column 18 lines 55-62. | … microcomputer, **205**, instructs signal processor, **200**, to hold examples of the sought for unique signals in its buffer/ comparator, **8**, and compare them with all incoming signals. Signal processor, **200**, scans sequentially all channels. When it identifies a signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, **205**. | Page 288 lines 13-20. | As Fig. 4 shows, …in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205. |
| | | | Page 420 line 6 to page 423 line 10. | The signal processor, 200, of said station is preprogrammed … with particular news-items-of-interest information that includes identification information of the particular stocks in said portfolio …<br>One company whose stock is preprogrammed at said microprocessor, 205, is the American Telephone and Telegraph Company whose stock is identified by particular binary information of "T". And among the news-items-of-interest information at said RAM is an instance of said binary information of "T". …<br>At the station of Fig. 7 and 7C, signal processor, 200, scans sequentially all channels at its switch, 1, mixer, 3, and decoder, 30, in the fashion of example #5. …<br>Receiving said Select-AT&T-News-Item |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | | | | message causes ... said controller, 39, to load the binary information of "**T**" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "**T**" that is among the news-items-of-interest information ...<br>Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5. |
| output at said variable event location; | Column 18 lines 62-67. | In a predetermined fashion, either microcomputer, **205**, or signal processor, **200**, instructs tuner, **223**, to set cable converter box, **222**, to the proper channel, and microcomputer, **200**, may record the information in memory or transfer it to printer, **221**, for printing. | Page 423 lines 11-13. | Receiving said message causes said controller, 20, to cause a selected cable converter box, 222, to receive the transmission identified by said channel mark; ..... |
| | | | Page 424 lines 2-9. | Then receiving a particular to-223 instruction from said control processor, 20A, causes controller, 20, to transmits particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated cable converter box, 222, the to the particular channel transmission of said multi-channel cable transmission that is identified by said channel mark. |
| | | | Page 426 lines 10-18. | Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.) |

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| | Reference | Language | Reference | Language |
| programming said programmable receiver station to detect data at said variable event location; and | Column 9 lines 47-57. | The controller, **20**, is programed to sequence the local oscillator, **6**, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency. | Page 248 line 17 to page 249 line 5. | Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies … In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. |
| | | | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 …<br>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | | The local oscillator, being thus sequenced, will allow each signal decoder, **30** and **40**, to receive a particular frequency at a particular time interval. | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to |

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| | | | | decoder, 30 …<br>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | | | Page 265 line 27 to Page 266 line 21. | Said radio-detection-complete information causes … controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 …<br>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, … causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. |
| | | This will define the timing of the composite outputs of the digital detectors, **34**, **37**, and **38** in FIG. **2A**, and **43** in FIG. **2B**. | Page 250 lines 13-17. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command. |
| | | | Page 251 lines 8-11. | Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; … |
| | | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits |

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| | Reference | Language | Reference | Language |
| | | | | said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. |
| | | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| | Column 3 lines 3-8. | The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. | Page 14 line 32 to page 15 line 2. | The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. |
| processing at least one of a mark, | Column 9 lines 4-8. | Oscillator, **6**, the controller, **20**, and buffer/comparator, **8**, can interact in such a fashion that buffer, **8**, can identify the channel that any given signal is received on and mark the signal for subsequent identification of the channel. | Page 258 lines 17-25. | … said wireless channel 9 and causes scillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. Automatically, oscillator, 6, causes mixer, 3, to select the frequency of channel 13 and input said frequency to decoder, 30. Controller, 20, then transmits a particular preprogrammed wireless-13 instruction to said control processor, 39J, that informs said processor, 39J, wireless channel 13 is inputted to decoder, 30. |
| | | | Page 260 lines 5-13. | … commence transferring information from control processor, 39J, to buffer/comparator, 8, then to transmit a message that consists of binary information of a "00" header then the execution segment information of the pseudo command then a meter-monitor segment containing said monitor information in RAM (including the associated channel mark and the format information of said information) then any padding bits required to end said message. (Hereinafter, said message is called the "3rd-old-program-message (#5)".) … |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | Reference | Language | Reference | Language |
| | | | Page 270 lines 5-12. | Receiving any given old programming message causes onboard controller, 14A, to … determine that the channel mark … in said old programming message matches the channel mark … of a selected monitor information record previously initiated … |
| code and | Column 4 lines 5-6.<br><br>Column 2 lines 63-66. | These techniques employ signals embedded in programs.<br>(The term "signal unit" hereinafter means **one complete signal instruction** or information **message unit**. Examples of signal units are a unique code identifying a programing unit, or a … | Page 13 lines 25-26.<br><br>Page 14 lines 27-29. | The present invention employs signals embedded in programming.<br>(The term "signal unit" hereinafter means **one complete signal instruction** or information **message unit**. Examples of signal units are a unique code identifying a programming unit, or a … |
| datum that at least one of designates and | Column 3 lines 3-8. | The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. | Page 14 line 32 to page 15 line 2. | The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. |
| identifies said variable event location. | If Mark<br><br>Column 9 lines 4-8. | Oscillator, **6**, the controller, **20**, and buffer/comparator, **8**, can interact in such a fashion that buffer, **8**, can identify the channel that any given signal is received on and mark the signal for subsequent identification of the channel. | If Mark<br><br>Page 258 lines 17-25.<br><br>Page 260 lines 5-13. | … said wireless channel 9 and causes scillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. Automatically, oscillator, 6, causes mixer, 3, to select the frequency of channel 13 and input said frequency to decoder, 30. Controller, 20, then transmits a particular preprogrammed wireless-13 instruction to said control processor, 39J, that informs said processor, 39J, wireless channel 13 is inputted to decoder, 30.<br><br>… commence transferring information from control processor, 39J, to buffer/comparator, 8, then to transmit a message that consists of binary information of a "00" header then the execution segment information of the pseudo command then a meter-monitor segment |

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| | Reference | Language | Reference | Language |
| | | | Page 270 lines 5-12. | containing said monitor information in RAM (including the associated channel mark and the format information of said information) then any padding bits required to end said message. (Hereinafter, said message is called the "3rd-old-program-message (#5)".) ... |
| | | | | Receiving any given old programming message causes onboard controller, 14A, to ... determine that the channel mark ... in said old programming message matches the channel mark ... of a selected monitor information record previously initiated ... |
| | If Code | | If Code | |
| | Column 4 lines 5-6. | These techniques employ signals embedded in programs. | Page 13 lines 25-26. | The present invention employs signals embedded in programming. |
| | Column 2 lines 63-66. | (The term "signal unit" hereinafter means **one complete signal instruction** or information **message unit**. Examples of signal units are a unique code identifying a programing unit, or a ... | Page 14 lines 27-29. | (The term "signal unit" hereinafter means **one complete signal instruction** or information **message unit**. Examples of signal units are a unique code identifying a programming unit, or a ... |
| | **If Datum** | | **If Datum** | |
| | Column 3 lines 3-8. | The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. | Page 14 line 32 to page 15 line 2. | The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. |
| | Column 7 lines 36-39. | Buffer/comparator, 8, organizes the data stream that it receives according to a pre-determined fashion that enables buffer/comparator, 8, among other things, to **assemble** signal units from signal words. | Page 14 lines 22-25. | In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must **assemble** in order to receive one complete instruction. |
| | Column 2 lines 63-64. | (The term "signal unit" hereinafter means **one complete signal instruction** or information message unit. | Page 21 lines 14-19 | Decoder, 203, is preprogrammed to detect digital information on a particular line or lines (such as line 20) of the vertical interval of its video transmission input; to correct errors in said information; to convert said corrected |
| | Column 3 lines 3-8. | The term "signal word" hereinafter means | | |

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| | | one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. | | information into digital signals usable by microcomputer, 205; and to input said signals to microcomputer, 205, at its … |
| | Column 19 lines 17-23. | … processor or monitor, **12**, which reacts, in a predetermined fashion by passing also externally to microcomputer, **205**, all signals that it passes to buffer/ comparator, **14**. Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. | Page 435 lines 16-18.<br><br>Page 267 lines 20-28 from example #5.<br><br>Page 436 line 9 to page 437 line 3. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, …<br><br>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)<br><br>Receiving said Select-WSW-Program- Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, … The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said … enable-WSW-on-CC13…<br>Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said |

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| | | | | program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. |
| | | | Page 439 lines 14-15. | … to receive the transmission of cable channel 13; … |
| 12. A method for processing an event signal | Column 19 lines 20-25. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X … | Page 436 line 9 to page 437 line 6. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, … The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said … enable-WSW-on-CC13 …<br>Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information |

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| | | | | causes controller, 20, in a predetermined fashion, to prepare particular apparatus … |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | | | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its… |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| at a programmable receiver station, said receiver station having | Column 8 lines 20-27. | The signal processor apparatus also has a controller device which includes programable random access memory controller **20**, read only memory **21** that may contain a unique digital code capable of identifying the signal processing apparatus uniquely, an automatic dialing device **24**, and a telephone unit, **22**. The controller, **20**, governs the operation of all operating elements of the apparatus. | Page 33 lines 7-20. | Signal processor, 26, has a controller device which includes programmable RAM controller, 20; ROM, 21, that may contain unique digital code information capable of identifying signal processor, 26, and the subscriber station of said processor, 26, uniquely; an automatic dialing device 24; and a telephone unit, 22. … Controller, 20, has capacity for controlling the operation of all elements of the signal processor … |
| a receiver, | Column 9 lines 53-55. | The local oscillator, being thus sequenced, will allow each signal decoder, **30** and **40**, to receive a particular frequency at a particular time interval. | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 …<br>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | | | | the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | | | Page 265 line 27 to Page 266 line 21. | Said radio-detection-complete information causes … controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 …<br>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, … causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. |
| a detector, | Column 9 lines 55-57. | This will define the timing of the composite outputs of the digital detectors, **34**, **37**, and **38** in FIG. **2A**, and **43** in FIG. **2B**. | Page 250 lines 13-17. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command. |
| | | | Page 251 lines 8-11. | Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; … |
| | | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. |
| | | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, |

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| | | | | receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| a processor, and s | Column 6 lines 23-26. | A signal processor apparatus for simultaneous use with a cablecast input that conveys both television and radio programing and a broadcast television input is shown in Figure 1. | Page 29 lines 4-7. | Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input. |
| an output device, said detector for receiving digital signals, said processor for processing signals, said method comprising the steps of: | Column 19 lines 23-25. | … microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X … | Page 437 lines 1-6.<br><br>Page 439 lines 9-15.<br><br>Page 295 lines 6-8.<br><br>Page 439 lines 9-15. | Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus …<br><br>… to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; …<br><br>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its…<br><br>…to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| informing said programmable receiver station of an event time; | Column 9 lines 47-52. | The controller, 20, is programed to sequence the local oscillator, 6, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency. | Page 248 line 17 to page 249 line 5. | Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies … In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local |

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| | Reference | Language | Reference | Language |
| | | | | oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. |
| | | | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 … Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | Column 9 lines 53-55. | The local oscillator, being thus sequenced, will allow each signal decoder, 30 and 40, to receive a particular frequency at a **particular time** interval. | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 … Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |

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| | | | Page 265 line 27 to Page 266 line 21. | Said radio-detection-complete information causes … controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 …<br>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, … causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. |
| detecting one of the presence and | Column 9 lines 55-57. | This will define the timing of the composite outputs of the digital detectors, **34**, **37**, and **38** in FIG. **2A**, and **43** in FIG. **2B**. | Page 250 lines 13-17. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command. |
| | | | Page 251 lines 8-11. | Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; … |
| | | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. |
| | | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |

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| | Reference | Language | Reference | Language |
| the absence of | Column 8 line 68 to column 9 line 4. | Buffer/comparator, **8**, and monitor or processor, **12**, each have the capacity to inform controller, **20**, when signals that they … look for in predetermined fashions, set by and changeable by controller, **20**, fail to appear. | Page 258 lines 10-19. | Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, automatically causes control processor, 39J, to cause all apparatus of decoder, 30, cease receiving SPAM message information and delete all information received on said wireless channel 9 and causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| said event signal | Column 4 lines 5-6. | These techniques employ signals embedded in programs. | Page 13 lines 25-26. | The present invention employs signals embedded in programming. |
| based on said step of informing; | Column 9 lines 53-57. | The local oscillator, being thus sequenced, will allow each signal decoder, **30** and **40**, to receive a particular frequency at a particular time interval. | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 …<br>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | | | Page 265 line 27 to Page 266 line 21. | Said radio-detection-complete information causes … controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 … |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | | | | After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, … causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. |
| | | This will define the timing of the composite outputs of the digital detectors, **34**, **37**, and **38** in FIG. **2A**, and **43** in FIG. **2B**. | Page 250 lines 13-17. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command. |
| | | | 251 lines 8-11. | Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; … |
| | | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. |
| | | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| reacting, under processor control, based on said step of detecting; | If Presence<br><br>Column 7 lines 6-11. | If one returns to FIG. 1, one sees that the three separate lines of information outputted from TV signal decoder, 30, are then gated to a buffer/comparator, 8, which also receives other inputs from the other separate receivers comprising similar filters, demodulators, and decoders for other channels of interest. | If Presence<br><br>Page 29 line 33 to page 30 line 5. | Decoder, 30, which is shown in detail in Fig. 2A, and decoder, 40, which is shown in Fig. 2B, detect signal information embedded in the respective inputted television and radio frequencies, … and output said signals and said modified signals to buffer/comparator, 8. |
| | Column 7 lines 47-49. | Buffer/comparator, 8, passes signal words | Page 30 lines 29-30. | Buffer/comparator, 8, transfers signals that do |

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| | | and units not identified as requiring decryption directly to processor or monitor, 12. | | not require decryption directly to processor or controller, 12. |
| | Column 7 lines 50-58. | Processor or monitor, 12, analyzes, in a pre-determined fashion, the signal words and units that it receives and determines whether they are to be passed to external equipment or to buffer/comparator, 14, for further processing or both. If a signal or signals are to be passed externally, processor unit, 12, identifies, in a pre-determined fashion, the external equipment to which the signal or signals are addressed and **passes them** to appropriate jack ports for external transmission. | Page 31 lines 10-18. | Controller, 12, receives the signals inputted from buffer/comparator, 8, and decryptor, 10; analyzes said signals in a predetermined fashion; and determines whether they are to be transferred to external equipment or to buffer/comparator, 14, or both. If a signal or signals are to be transferred externally, in a predetermined fashion controller, 12, identifies the external apparatus to which the signal or signals are addressed and transfers them to the appropriate port or ports for external transmission. |
| | If Absence<br><br>Column 8 line 68 to column 9 line 4. | Buffer/comparator, 8, and monitor or processor, 12, each have the capacity to **inform** controller, 20, when signals that they ... look for in predetermined fashions, set by and changeable by controller, 20, fail to appear. | If Absence<br><br>Page 258 lines 10-19. | Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, automatically causes control processor, 39J, to cause all apparatus of decoder, 30, cease receiving SPAM message information and delete all information received on said wireless channel 9 and causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | Column 8 lines 27-29. | The controller, 20, inputs the local oscillator, 6, a sequential pattern to select the various channels to be received by switch, 1, and mixers, 2 and 3. | Page 248 line 35 to page 249 line 5. | In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. |
| | Column 9 lines 53-57. | The local oscillator, being thus sequenced, will allow each signal decoder, **30** and **40**, to receive a particular frequency at a particular time interval. | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said |

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| | | | | frequency of interest, at a fixed frequency, to decoder, 30 … <br> Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | | | Page 265 line 27 to Page 266 line 21. | Said radio-detection-complete information causes … controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 … <br> After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, … causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. |
| | | This will define the timing of the composite outputs of the digital detectors, **34**, **37**, and **38** in FIG. **2A**, and **43** in FIG. **2B**. | Page 250 lines 13-17. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command. |
| | | | 251 lines 8-11. | Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; … |
| | | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal |

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| | | | | information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. |
| | | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| | Column 7 lines 6-11. | If one returns to FIG. **1**, one sees that the three separate lines of information outputted from TV signal decoder, **30**, are then gated to a buffer/comparator, **8**, which also receives other inputs from the other separate receivers comprising similar filters, demodulators, and decoders for other channels of interest. | Page 29 line 33 to page 30 line 5. | Decoder, 30, which is shown in detail in Fig. 2A, and decoder, 40, which is shown in Fig. 2B, detect signal information embedded in the respective inputted television and radio frequencies, … and output said signals and said modified signals to buffer/comparator, 8. |
| | Column 7 lines 47-49. | Buffer/comparator, **8**, passes signal words and units not identified as requiring decryption directly to processor or monitor, **12**. | Page 30 lines 29-30. | Buffer/comparator, 8, transfers signals that do not require decryption directly to processor or controller, 12. |
| processing said event signal based on aid step of reacting; and | Column 19 lines 17-23. | … processor or monitor, **12**, which reacts, in a predetermined fashion by passing also externally to microcomputer, **205**, all signals that it passes to buffer/ comparator, **14**. Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. | Page 435 lines 16-18. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, … |
| | | | Page 267 lines 20-28 from example #5. | All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) |
| | | | Page 436 line 9 to page 437 line 3. | Receiving said Select-WSW-Program- Unit message causes decoder, 203, … to input … |

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| | | | | the information segment of said message to the CPU of microcomputer, 205, … The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said … enable-WSW-on-CC13…<br>Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. |
| | | | Page 439 lines 14-15. | … to receive the transmission of cable channel 13; … |
| outputting programming based on said step of processing. | Column 19 lines 20-25. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X … | Page 436 line 9 to page 437 line 6. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, … The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said … enable-WSW-on-CC13 …<br>Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects* |

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| | | | | *the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus … |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | | | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its… |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| 13. The method of claim 12, wherein said step of informing, further comprises at least one step of the group consisting of: | Column 9 lines 47-52. | The controller, 20, is programed to sequence the local oscillator, 6, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency. | Page 248 line 17 to page 249 line 5. | Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies … In a predetermined fashion, controller, 20, |

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| | | | | controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. |
| | | | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 … Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| informing said programmable receiver station of a location to at least one of input and | Column 9 lines 47-52. | The controller, 20, is programed to sequence the local oscillator, 6, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency. | Page 248 line 17 to page 249 line 5. | Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies … In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. |
| | | | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause |

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| | | | | the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 … Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | Column 6 lines 31-41. | The broadcast transmission is input to switch 1. Switch 1 and mixers 2 and 3 are all controlled by local oscillator and switch control 6. The oscillator, 6, is controlled to provide a number of discrete specified frequencies for the particular radio and television channels required. The switch, 1, acts to select the **broadcast input** or the **cablecast input** and passes transmissions to mixer 3 which, with the controlled oscillator, 6, acts to select a television frequency of interest that is passed at a fixed frequency to a TV signal decoder, 30. | Page 29 lines 16-26. | The broadcast transmission is inputted to switch, 1. Switch, 1, and mixers, 2 and 3, are all controlled by local oscillator and switch control, 6. The oscillator, 6, is controlled to provide a number of discrete specified frequencies for the particular radio and television channels required. The switch, 1, acts to select the broadcast input or the cablecast input and passes transmissions to mixer, 3, which, with the controlled oscillator, 6, acts to select a television frequency of interest that is passed at a fixed frequency to a TV signal decoder, 30. |
| output at said event time; | Column 9 lines 4-8. | Oscillator, 6, the controller, 20, and buffer/comparator, 8, can interact in such a fashion that buffer, 8, can identify the channel that any given signal is received on and mark the signal for subsequent identification of the channel. | Page 258 lines 17-25. | … said wireless channel 9 and causes scillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. Automatically, oscillator, 6, causes mixer, 3, to select the frequency of channel 13 and input said frequency to decoder, 30. Controller, 20, then transmits a particular preprogrammed wireless-13 instruction to said control processor, 39J, that informs said processor, 39J, wireless channel 13 is inputted to decoder, 30. |

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| | | | Page 260 lines 5-13. | … commence transferring information from control processor, 39J, to buffer/comparator, 8, then to transmit a message that consists of binary information of a "00" header then the execution segment information of the pseudo command then a meter-monitor segment containing said monitor information in RAM (including the associated channel mark and the format information of said information) then any padding bits required to end said message. (Hereinafter, said message is called the "3rd-old-program-message (#5)".) … |
| | | | Page 270 lines 5-12. | Receiving any given old programming message causes onboard controller, 14A, to … determine that the channel mark … in said old programming message matches the channel mark … of a selected monitor information record previously initiated … |
| informing said programmable receiver station of subject matter to | Column 18 lines 48-55. | Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, **222** and **201**, and to signal processor, **200**. The news services preceed each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries. | Page 420 line 21 to page 421 line 7. | Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions.<br>The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.<br>Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit- News-Item SPAM message …<br>In due course, said remote news-service-A station … |
| at least one of input and | Column 9 lines 47-57. | The controller, **20**, is programed to sequence the local oscillator, **6**, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be | Page 248 line 17 to page 249 line 5. | Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the |

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| | Reference | Language | Reference | Language |
| | | selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency. | | standard broadcast and cablecast practices that apply on said transmissions and frequencies … In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. |
| | | | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 …<br>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | | The local oscillator, being thus sequenced, will allow each signal decoder, **30** and **40**, to receive a particular frequency at a particular time interval. | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 …<br>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from |

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| | | | | the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | | | Page 265 line 27 to Page 266 line 21. | Said radio-detection-complete information causes … controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 …<br>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, … causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. |
| | | This will define the timing of the composite outputs of the digital detectors, **34**, **37**, and **38** in FIG. **2A**, and **43** in FIG. **2B**. | Page 250 lines 13-17. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command. |
| | | | Page 251 lines 8-11. | Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; … |
| | | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. |

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| | | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| | Column 18 lines 55-62. | … microcomputer, **205**, instructs signal processor, **200**, to hold examples of the sought for unique signals in its buffer/ comparator, **8**, and compare them with all incoming signals. Signal processor, **200**, scans sequentially all channels. When it identifies a signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, **205**. | Page 288 lines 13-20. | As Fig. 4 shows, …in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205. |
| | | | Page 420 line 6 to page 423 line 10. | The signal processor, 200, of said station is preprogrammed … with particular news-items-of-interest information that includes identification information of the particular stocks in said portfolio …<br>One company whose stock is preprogrammed at said microprocessor, 205, is the American Telephone and Telegraph Company whose stock is identified by particular binary information of "T". And among the news-items-of-interest information at said RAM is an instance of said binary information of "T". …<br>At the station of Fig. 7 and 7C, signal processor, 200, scans sequentially all channels at its switch, 1, mixer, 3, and decoder, 30, in the fashion of example #5. …<br>Receiving said Select-AT&T-News-Item message causes … said controller, 39, to load the binary information of **"T"** … of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of **"T"** that is among the news-items-of-interest information …<br>Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular |

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| | | | | channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5. |
| output at said event time; and | Column 18 lines 62-67. | In a predetermined fashion, either microcomputer, **205**, or signal processor, **200**, instructs tuner, **223**, to set cable converter box, **222**, to the proper channel, and microcomputer, **200**, may record the information in memory or transfer it to printer, **221**, for printing. | Page 423 lines 11-13.<br><br>Page 424 lines 2-9.<br><br>Page 426 lines 10-18. | Receiving said message causes said controller, 20, to cause a selected cable converter box, 222, to receive the transmission identified by said channel mark; .....<br><br>Then receiving a particular to-223 instruction from said control processor, 20A, causes controller, 20, to transmits particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated cable converter box, 222, the to the particular channel transmission of said multi-channel cable transmission that is identified by said channel mark.<br><br>Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.) |
| programming said programmable receiver station to detect data at said event time. | Column 9 lines 53-57. | The local oscillator, being thus sequenced, will allow each signal decoder, **30** and **40**, to receive a particular frequency at a particular time interval. | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...<br>Controller, 20, has capacity for keeping |

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| | | | | track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | | | Page 265 line 27 to Page 266 line 21. | Said radio-detection-complete information causes … controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 …<br>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, … causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. |
| | | This will define the timing of the composite outputs of the digital detectors, **34**, **37**, and **38** in FIG. **2A**, and **43** in FIG. **2B**. | Page 250 lines 13-17. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command. |
| | | | 251 lines 8-11. | Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; … |
| | | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with |

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| | | | | error correcting bit information of said command and transfers said binary and bit information to controller, 44. |
| | | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| 14. A method of signal processing at | Column 19 lines 20-25. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X … | Page 436 line 9 to page 437 line 6. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, … The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said … enable-WSW-on-CC13 …<br>Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus … |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | Reference | Language | Reference | Language |
| | | | Page 439 lines 9-15.<br><br>Page 295 lines 6-8.<br><br>Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; …<br><br>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its…<br><br>…to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| a television receiver station, said television receiver station having a television receiver, a television monitor, | Column 19 lines 27-29. | …and also microcomputer, **205**, may instruct switch, **216**, to turn TV set, **202**, on and tuner, **215**, to tune appropriately to "Wall Street Week." | Page 445 line 24 to page 446 line 1.<br><br>Page 446 lines 17-21. | … instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; … Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.<br><br>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio … |
| a signal detector, | Column 9 lines 55-57. | This will define the timing of the composite outputs of the digital detectors, **34**, **37**, and **38** in FIG. **2A**, and **43** in FIG. **2B**. | Page 250 lines 13-17.<br><br>Page 251 lines 8-11. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command.<br><br>Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; … |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
|---|---|---|---|---|
| | Reference | Language | Reference | Language |
| | | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. |
| | | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| a processor, and | Column 19 lines 18-20. | [processor or monitor, **12**, reacts] … in a predetermined fashion by passing also externally to microcomputer, **205**, all signals that it passes to buffer/ comparator, **14**. | Page 435 lines 16-18. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, … |
| | | | Page 267 lines 20-28 from example #5. | All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) |
| | | | Page 268 line 28 to page 269 line 12 from example #5. | In example #5, controller, 12, is preprogrammed to process monitor information, and completing the controlled functions invoked by any given message causes controller, 12, automatically to process the information of said message as monitor information, in the fashion of controller, 39, of decoder, 203, in example #3. … Automatically, control processor, 12J, transfers to buffer/comparator, 14, via matrix |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | Reference | Language | Reference | Language |
| | | | | switch, 12 I, header information that identifies a transmission of monitor information of available programming then all of the information that is recorded at said SPAM-input-signal memory. (In each example #5 case, the information that is transferred--together with its newly added header information--continues to be called by its previously assigned name; for example, the 1st-old-radio-program-message (#5).) |
| a storage device, said method comprising the steps of: | Column 7 lines 36-37. | Buffer/comparator, **8**, organizes the data stream that it receives according to a pre-determined fashion … | Page 30 lines 7-9.<br><br>Page 36 line 32 to page 37 line 3. | Buffer/comparator, 8, receives said signals from said decoders and other signals from other inputs and organizes the received information in a predetermined fashion.<br><br>Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities. Said buffer capacity of controller, 39, 44, or 47, includes capacity for … organizing, … inputs …. |
| informing said television receiver station of at least one of: (1) a television program of interest, said television program designated by at least one of a title | Column 19 lines 5-9. | … microcomputer, **205** may be preinformed that a certain television program, hypothetically "Wall Street Week," should be televised on TV set, **202**, when it is cablecast. Microcomputer, **205**, is preinformed of the time of cablecasting. | Page 428 lines 21-26.<br><br>Page 437 lines 1-3. | The program-unit-of-interest information preprogrammed at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular specific-WSW information that reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.<br><br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20. |
| and subject matter; and | Column 18 lines 48-55. | Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, **222** and **201**, and to signal processor, **200**. The news services preceed each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries. | Page 420 line 21 to page 421 line 7. | Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions.<br>The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | Reference | Language | Reference | Language |
| | | | | that are inputted to converter boxes, 222 and 201, and to signal processor, 200.<br>Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit- News-Item SPAM message …<br>In due course, said remote news-service-A station … |
| | Column 19 lines 1-4. | In the same fashion, microcomputer, **205**, may also instruct signal processor, **200**, to monitor single or multiple television channels and/or radio channels for programing of interest to play or record. | Page 419 line 34 to page 420 line 2. | Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information. |
| | | | Page 11 lines 5-10. | The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming. |
| (2) a time to at least one of receive and display a television program; | Column 19 lines 8-9. | Microcomputer, **205**, is preinformed of the time of cablecasting. | Page 437 lines 1-3. | Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20. |
| | Column 19 lines 45-46. | When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, … | Page 451 lines 6-7. | When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, … |
| receiving a television program based on said step of informing; | Column 19 lines 17-23. | … processor or monitor, **12**, which reacts, in a predetermined fashion by passing also externally to microcomputer, **205**, all signals that it passes to buffer/ comparator, **14**. Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. | Page 435 lines 16-18. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, … |
| | | | Page 267 lines 20-28 from example #5. | All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands |

| Claim Language | Support to parent application filed November 3, 1981: | | Support to instant specification. | |
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| | | | | are called "guide commands" because they can guide station control apparatus to desired programming.) |
| | | | Page 436 line 9 to page 437 line 3. | Receiving said Select-WSW-Program- Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, … The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said … enable-WSW-on-CC13… Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance. Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. |
| | | | Page 439 lines 14-15. | … to receive the transmission of cable channel 13; … |
| | Column 19 lines 23-25. | … microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X … | Page 437 lines 1-6. | Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | | | | predetermined fashion, to prepare particular apparatus … |
| | | | Page 439 lines 9-15. | … to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | | | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its… |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| determining said television monitor is not outputting at least a portion of said received television program; and | Column 19 lines 9-12. | When that time comes, microcomputer, **205**, receives no program identification signals whatever from TV signal decoder, **203**, which indicates that the set, **202**, is not on. | Page 444 lines 33-34. | …decoder, 145, to determine, in a predetermined fashion, that power is not on to monitor, 202M, and to respond by…. |
| controlling at least one apparatus based on said step of determining. | Column 19 lines 20-29. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. | Page 436 line 9 to page 437 line 6. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, … The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said … enable-WSW-on-CC13 …<br>Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and |

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| | Reference | Language | Reference | Language |
| | | Then, in a predetermined fashion, microcomputer, **205**, may | | **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus … |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | | instruct tuner, **214**, to switch box, **201**, to channel X | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its … |
| | | and may instruct control system, **220**, to turn video recorder, **217**, on and record "Wall Street Week," | Page 445 lines 24-27. | …instructions causes controller, 20, …; to switch power on to video recorder/player, 217, … |
| | | | Page 446 lines 18-23. | …controller, 20, … causes recorder/player, 217, to record said information of the "Wall Street Week" program. |
| | | and also microcomputer, **205**, may instruct switch, **216**, to turn TV set, **202**, on | Page 445 line 24 to page 446 line 1. | …instructions causes controller, 20, to switch power on to monitor, 202M, …<br>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, … |
| | | and tuner, **215**, to tune appropriately to "Wall Street Week." | Page 445 line 35 to page 446 line 1. | …and to tune monitor, 202M, in a predetermined fashion. |
| | | | Page 446 lines 17-21. | In so doing, controller, 20, causes monitor, |

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| | Reference | Language | Reference | Language |
| | | | | 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio … |
| 15. The method of claim 14, wherein said at least one controlled apparatus includes said storage device, said method further having at least one step of the group consisting of: | Column 19 lines 25-27. | … and [microcomputer, **205**,] may instruct control system, **220**, to turn video recorder, **217**, on and record "Wall Street Week," … | Page 445 lines 24-27.<br><br>Page 446 lines 18-23. | … instructions causes controller, 20, … to switch power on to video recorder/player, 217, …<br><br>… controller, 20, … causes recorder/player, 217, to record said information of the "Wall Street Week" program. |
| directing said television program to said storage device; and | Column 19 lines 23-25. | … microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X … | Page 437 lines 1-6.<br><br>Page 439 lines 9-15.<br><br>Page 295 lines 6-8.<br><br>Page 439 lines 9-15. | Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus …<br><br>… to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; …<br><br>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its…<br><br>…to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| storing said | Column 19 lines 23-24. | Then, in a predetermined fashion, | Page 437 lines 1-6. | Determining a match causes microcomputer, |

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| | Reference | Language | Reference | Language |
| television program on said storage device. | | microcomputer, **205**, may … | | 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particu lar- 8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus … |
| | | | Page 439 lines 9-15. | … to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | Column 19 lines 25-27. | … and [microcomputer, **205**,] may instruct control system, **220**, to turn video recorder, **217**, on and record "Wall Street Week," … | Page 445 lines 24-27. | … instructions causes controller, 20, … to switch power on to video recorder/player, 217, … |
| | | | Page 446 lines 18-23. | … controller, 20, … causes recorder/player, 217, to record said information of the "Wall Street Week" program. |
| 16. The method of claim 14, wherein said at least one controlled apparatus includes said television monitor, said method further having at least one step of the group consisting of: | Column 19 lines 27-29. | …and also microcomputer, **205**, may instruct switch, **216**, to turn TV set, **202**, on and tuner, **215**, to tune appropriately to "Wall Street Week." | Page 445 line 24 to page 446 line 1. | … instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; … Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. |
| | | | Page 446 lines 17-21. | In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio … |
| directing said television program to | Column 19 lines 23-25. | … microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X … | Page 437 lines 1-6. | Determining a match causes microcomputer, 205, automatically to input said |

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| | Reference | Language | Reference | Language |
| said storage device; and | | | | please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus … |
| | | | Page 439 lines 9-15. | … to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | | | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its… |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| storing said television program on said storage device. | Column 19 lines 23-24. | Then, in a predetermined fashion, microcomputer, **205**, may … | Page 437 lines 1-6. | Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus … |
| | | | Page 439 lines 9-15. | … to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | Column 19 lines 25-27. | … and [microcomputer, **205**,] may instruct control system, **220**, to turn video recorder, **217**, on and record "Wall Street Week," … | Page 445 lines 24-27. | … instructions causes controller, 20, … to switch power on to video recorder/player, 217, … |
| | | | Page 446 lines 18-23. | … controller, 20, … causes recorder/player, |

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| | Reference | Language | Reference | Language |
| | | | | 217, to record said information of the "Wall Street Week" program. |
| 17. A method of signal processing at | Column 19 lines 20-25. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X … | Page 436 line 9 to page 437 line 6. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, … The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said … enable-WSW-on-CC13 …<br>Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus … |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | | | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a |

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| | Reference | Language | Reference | Language |
| | | | | selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its… |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| a television receiver station, said television receiver station having a television receiver, a television monitor, | Column 19 lines 27-29. | …and also microcomputer, **205**, may instruct switch, **216**, to turn TV set, **202**, on and tuner, **215**, to tune appropriately to "Wall Street Week." | Page 445 line 24 to page 446 line 1. | … instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; … Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. |
| | | | Page 446 lines 17-21. | In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio … |
| a signal detector, | Column 9 lines 55-57. | This will define the timing of the composite outputs of the digital detectors, **34**, **37**, and **38** in FIG. **2A**, and **43** in FIG. **2B**. | Page 250 lines 13-17. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command. |
| | | | Page 251 lines 8-11. | Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; … |
| | | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with |

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| | Reference | Language | Reference | Language |
| | | | | error correcting bit information of said command and transfers said binary and bit information to controller, 44. |
| | | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| a processor, and | Column 19 lines 18-20. | [processor or monitor, **12**, reacts] … in a predetermined fashion by passing also externally to microcomputer, **205**, all signals that it passes to buffer/ comparator, **14**. | Page 435 lines 16-18. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, … |
| | | | Page 267 lines 20-28 from example #5. | All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) |
| | | | Page 268 line 28 to page 269 line 12 from example #5. | In example #5, controller, 12, is preprogrammed to process monitor information, and completing the controlled functions invoked by any given message causes controller, 12, automatically to process the information of said message as monitor information, in the fashion of controller, 39, of decoder, 203, in example #3. … Automatically, control processor, 12J, transfers to buffer/comparator, 14, via matrix switch, 12 I, header information that identifies a transmission of monitor information of available programming then all of the information that is recorded at said SPAM-input-signal memory. (In each example #5 case, the information that is transferred-- |

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| | Reference | Language | Reference | Language |
| | | | | together with its newly added header information--continues to be called by its previously assigned name; for example, the 1st-old-radio-program-message (#5).) |
| a storage device, said television receiver station being adapted to at least one of | Column 7 lines 36-37. | Buffer/comparator, **8**, organizes the data stream that it receives according to a pre-determined fashion … | Page 30 lines 7-9.<br><br>Page 36 line 32 to page 37 line 3. | Buffer/comparator, 8, receives said signals from said decoders and other signals from other inputs and organizes the received information in a predetermined fashion.<br><br>Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities. Said buffer capacity of controller, 39, 44, or 47, includes capacity for … organizing, … inputs …. |
| store and | Column 19 lines 25-27. | … and [microcomputer, **205**,] may instruct control system, **220**, to turn video recorder, **217**, on and record "Wall Street Week," … | Page 445 lines 24-27.<br><br>Page 446 lines 18-23. | … instructions causes controller, 20, … to switch power on to video recorder/player, 217, …<br><br>… controller, 20, … causes recorder/player, 217, to record said information of the "Wall Street Week" program. |
| output television programming, said method comprising the steps of: | Column 19 lines 27-29. | …and also microcomputer, **205**, may instruct switch, **216**, to turn TV set, **202**, on and tuner, **215**, to tune appropriately to "Wall Street Week." | Page 445 line 24 to page 446 line 1.<br><br>Page 446 lines 17-21. | … instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; … Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.<br><br>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio … |
| informing said television receiver station of at least one of: (1) at least one of | Column 19 lines 5-9. | … microcomputer, **205** may be preinformed that a certain television program, hypothetically "Wall Street Week," should be televised on TV set, **202**, | Page 428 lines 21-26. | The program-unit-of-interest information preprogrammed at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular specific-WSW information that |

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| a title and | | when it is cablecast. Microcomputer, **205**, is preinformed of the time of cablecasting. | | reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. |
| | | | Page 437 lines 1-3. | Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20. |
| subject matter of at least said portion of said television programming; and | Column 18 lines 48-55. | Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, **222** and **201**, and to signal processor, **200**. The news services preceed each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries. | Page 420 line 21 to page 421 line 7. | Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200. Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit- News-Item SPAM message … In due course, said remote news-service-A station … |
| | Column 19 lines 1-4. | In the same fashion, microcomputer, **205**, may also instruct signal processor, **200**, to monitor single or multiple television channels and/or radio channels for programing of interest to play or record. | Page 419 line 34 to page 420 line 2. | Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information. |
| | | | Page 11 lines 5-10. | The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming. |
| (2) a time to at least | Column 19 lines 8-9. | Microcomputer, **205**, is preinformed of the | Page 437 lines 1-3. | Determining a match causes microcomputer, |

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| one of receive and display said at least said portion of said television programming; | | time of cablecasting. | | 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20. |
| | Column 19 lines 45-46. | When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, … | Page 451 lines 6-7. | When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, … |
| determining said television monitor is not outputting said at least said portion of said television programming based on said step of informing; and | Column 19 lines 9-12. | When that time comes, microcomputer, **205**, receives no program identification signals whatever from TV signal decoder, **203**, which indicates that the set, **202**, is not on. | Page 444 lines 33-34. | …decoder, 145, to determine, in a predetermined fashion, that power is not on to monitor, 202M, and to respond by…. |
| | Column 19 lines 5-9. | … microcomputer, **205** may be preinformed that a certain television program, hypothetically "Wall Street Week," should be televised on TV set, **202**, when it is cablecast. Microcomputer, **205**, is preinformed of the time of cablecasting. | Page 428 lines 21-26.. | The program-unit-of-interest information preprogrammed at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular specific-WSW information that reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. |
| | | | Page 437 lines 1-3. | Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20. |
| performing, under processor control based on said step of determining, at least one of the group consisting of: | Column 19 lines 20-27. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. | Page 436 line 9 to page 437 line 6. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, … The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information … and said … enable-WSW-on-CC13 … Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, |

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| | | Then, in a predetermined fashion, microcomputer, **205**, may | | microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance. Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, … |
| | | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | | | Page 439 lines 9-15 | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | | instruct tuner, **214**, to switch box, **201**, to channel X | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its… |
| | | | Page 445 lines 24-27. | …instructions causes controller, 20, …; to switch power on to video recorder/player, 217, … |
| | | and may instruct and may instruct control system, **220**, to turn video recorder, **217**, on and record "Wall Street Week," … | Page 446 lines 18-23. | …controller, 20, … causes recorder/player, 217, to record said information of the "Wall Street Week" program. |
| (1) receiving said at least said portion of said television programming; | Column 19 lines 24-25. | … microcomputer, 205, may instruct **tuner**, 214, to switch box, 201, to channel X… | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its… |
| | | | Page 439 lines 9-15. | … to cause selected apparatus of said station--cable converter box, 201, … to |

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| | | | | receive the transmission of cable channel 13;… |
| (2) outputting said at least said portion of said television programming; and | Column 19 lines 23-27. | … microcomputer, **205**, may instruct tuner, **214**, to switch box, **201**, to channel X and may instruct control system, **220**, to turn video recorder, **217**, on and record "Wall Street Week,"… | Page 437 lines 1-6. | Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus … |
| | | | Page 439 lines 9-15. | … to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | | | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its… |
| | | | Page 439 lines 9-15. | … to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13; … |
| | | | Page 445 lines 24-27. | … instructions causes controller, 20, …; to switch power on to video recorder/player, 217,…. |
| | | | Page 446 lines 18-23. | … controller, 20, … causes recorder/player, 217, to record said information of the "Wall Street Week" program. |
| (3) storing said at least said portion of said television programming. | Column 19 lines 25-27. | … and [microcomputer, **205**,] may instruct control system, **220**, to turn video recorder, **217**, on and record "Wall Street Week," … | Page 445 lines 24-27. | … instructions causes controller, 20, … to switch power on to video recorder/player, 217, … |
| | | | Page 446 lines 18-23. | … controller, 20, … causes recorder/player, 217, to record said information of the "Wall Street Week" program. |

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| 18. A method of enabling an event signal at a receiver station, said method comprising the steps of: | Column 15 lines 20-25. | In any of the cases illustrated in FIGs 4A through 4E, signal processors, 100, 103, 106, 109, and 112, could also operate in a predetermined fashion and telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or **transfer** of incoming programing transmissions. | Page 311 line 33 to page 312 line 8.<br><br>Page 293 lines 32-35.<br><br>Page 301 lines 6-9.<br><br>Page 308 line 35 to page 309 line 3. | And for example, determining that a local station is not preprogrammed properly and/or that decryption, … apparatus are not functioning correctly may cause apparatus of said station … interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information. And for example, the transmitted programming …<br><br>At each station where a match fails to occur--which suggests that the preprogrammed SPAM operating information of said station has been tampered with in an unauthorized fashion.…<br><br>… each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly …<br><br>At each station where a … a match does not result--which indicates that a decryptor, 224 or 231, is not decrypting its received information correctly … |
| storing operating instructions at a remote data source, | Column 9 lines 21-23. | [The Controller, 20] is interactive with external sources via telephone connection, **22**, and … | Page 273 lines 6-19. | Controller, 20, transfers the telephone number, 1-800-AUDITOR, to auto dialer, 24, and causes said dialer, 24, to dial said number. Said first computer answers said telephone call, and in a fashion well known in the art, controller, 20, and said first computer automatically establish telephone communications. Automatically, controller, 20, causes telephone connection, 22, to transfer particular identifying information that includes the unique digital identifying code of ROM, 21, to said first computer followed by a particular instruct-to- receive signal. Said instruct-to-receive signal causes said first computer automatically to prepare to receive |

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| | | | | audit records then to transfer a particular start signal via connection, 22, to controller, 20. |
| | | … can be reprogramed from such remote sources. | Page 537 lines 6-17. | At 3:10 AM, GMT, *said European master network station* transmits particular SPAM message information, embedded in the information of said master transmission, including a SPAM end of file signal and the aforementioned sequence of SPAM messages that contain operating system instructions. In so doing, said European master network station inputs operating system instructions to all SPAM apparatus and receiver station computers, 73, and microcomputers, 205, thereby causing said apparatus and computers, 73 and 205, as described above in "PREPROGRAMMING RECEIVER STATION OPERATING SYSTEMS," to commence operating under control of the instructions of said operating systems. |
| | | | with respect to page 555 line 24 to page 556 line 14. | …particular information of said TELEPHON.EXE module that causes … signal processor, 200, to transmit the information … via telephone network in the fashion of example #10, to a computer at a particular remote data collection station. Over the course of a particular time such as two days, computers at remote data collection stations receive data automatically from each farmer of said nations which data indicates the specific quantity of each crop that each farmer expects to harvest during the 2027 growing season. Automatically, the received data is aggregated, in a fashion well known in the art, at the computer of said *European master network* origination and control *station* … Then, at 3:59 PM, on Thursday, February 18, 2027, the cycle of generating and communicating information of farmers is repeated … |
| | Column 14 lines 20-25 | | | |

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| | Column 14 lines 54-61 | | | |
| said operating instructions enabling said receiver station to detect | Column 8 lines 20-27. | The signal processor apparatus also has a controller device which includes programable random access memory controller **20**, read only memory **21** that may contain a unique digital code capable of identifying the signal processing apparatus uniquely, an automatic dialing device **24**, and a telephone unit, **22**. The controller, **20**, governs the operation of all operating elements of the apparatus. | Page 33 lines 7-20. | Signal processor, 26, has a controller device which includes programmable RAM controller, 20; ROM, 21, that may contain unique digital code information capable of identifying signal processor, 26, and the subscriber station of said processor, 26, uniquely; an automatic dialing device 24; and a telephone unit, 22. … Controller, 20, has capacity for controlling the operation of all elements of the signal processor … |
| | Column 9 lines 47-57. | The controller, **20**, is programed to sequence the local oscillator, **6**, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency. | Page 248 line 17 to page 249 line 5. | Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies … In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. |
| | | | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 …<br>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the |

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| | | | | predetermined television channel selection pattern: wireless channel 13. |
| | | The local oscillator, being thus sequenced, will allow each signal decoder, **30** and **40**, to receive a particular frequency at a particular time interval. | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 …<br>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | | | Page 265 line 27 to Page 266 line 21. | Said radio-detection-complete information causes … controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 …<br>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, … causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. |
| | | This will define the timing of the composite outputs of the digital detectors, **34**, **37**, and **38** in FIG. **2A**, and **43** in FIG. **2B**. | Page 250 lines 13-17. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" |

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| | | | | program which is the message of the first combining synch command. |
| | | | Page 251 lines 8-11. | Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; … |
| | | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. |
| | | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| | Column 8 line 68 to column 9 line 4. | Buffer/comparator, **8**, and monitor or processor, **12**, each have the capacity to inform controller, **20**, when signals that they … look for in predetermined fashions, set by and changeable by controller, **20**, fail to appear. | Page 258 lines 10-19. | Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, automatically causes control processor, 39J, to cause all apparatus of decoder, 30, cease receiving SPAM message information and delete all information received on said wireless channel 9 and causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| and react to one of the presence and the absence of said event signal; | Column 8 lines 20-27. | The signal processor apparatus also has a controller device which includes programable random access memory controller **20**, read only memory **21** that may contain a unique digital code capable of identifying the signal processing apparatus uniquely, an automatic dialing device **24**, and a telephone unit, **22**. The | Page 33 lines 7-20. | Signal processor, 26, has a controller device which includes programmable RAM controller, 20; ROM, 21, that may contain unique digital code information capable of identifying signal processor, 26, and the subscriber station of said processor, 26, uniquely; an automatic dialing device 24; and a telephone unit, 22. … Controller, 20, has |

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| | Column 7 lines 50-58. | controller, **20**, governs the operation of all operating elements of the apparatus. Processor or monitor, **12**, analyzes, in a pre-determined fashion, the signal words and units that it receives and determines whether they are to be passed to external equipment or to buffer/comparator, **14**, for further processing or both. If a signal or signals are to be passed externally, processor unit, **12**, identifies, in a pre-determined fashion, the external equipment to which the signal or signals are addressed and passes them to appropriate jack ports for external transmission. | Page 31 lines 10-18. | capacity for controlling the operation of all elements of the signal processor … Controller, 12, receives the signals inputted from buffer/comparator, 8, and decryptor, 10; analyzes said signals in a predetermined fashion; and determines whether they are to be transferred to external equipment or to buffer/comparator, 14, or both. If a signal or signals are to be transferred externally, in a predetermined fashion controller, 12, identifies the external apparatus to which the signal or signals are addressed and transfers them to the appropriate port or ports for external transmission. |
| | Column 8 line 68 to column 9 line 4. | Buffer/comparator, **8**, and monitor or processor, **12**, each have the capacity to inform controller, **20**, when signals that they … look for in predetermined fashions, set by and changeable by controller, **20**, fail to appear. | Page 258 lines 10-19. | Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, automatically causes control processor, 39J, to cause all apparatus of decoder, 30, cease receiving SPAM message information and delete all information received on said wireless channel 9 and causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | Column 5 lines 19-21<br>Column 14 line 33<br>Column 15 lines 1-7 | | | |
| receiving at said remote data source a query from said receiver station; | Column 15 lines 22-25. | … and [signal processors, 100, 103, 106, 109, and 112, could] telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or transfer of incoming programing transmissions. | Page 312 lines 6-8. | … may interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information. |
| | Column 9 lines 21-22. | [The controller, 20] is **interactive** with external sources via telephone connection, 22, … | Page 273 lines 6-19. | Controller, 20, transfers the telephone number, 1-800-AUDITOR, to auto dialer, 24, and causes said dialer, 24, to dial said number. Said first computer answers said telephone call, and in a fashion well known in the art, controller, 20, and said first computer |

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| | | | | automatically establish telephone communications. Automatically, controller, 20, causes telephone connection, 22, to transfer particular identifying information that includes the unique digital identifying code of ROM, 21, to said first computer followed by a particular instruct-to- receive signal. Said instruct-to-receive signal causes said first computer automatically to prepare to receive audit records then to transfer a particular start signal via connection, 22, to controller, 20. |
| transmitting said operating instructions from said remote data source to said receiver station in response to said step of receiving said query, | Column 15 lines 22-25. | … and [signal processors, 100, 103, 106, 109, and 112, could] telephone a remote site to **get** an additional signal or signals necessary for the proper decryption and/or transfer of incoming programing transmissions. | Page 312 lines 6-8. | … may interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information. |
| | Column 9 lines 21-23. | [The Controller, 20] is **interactive** with external sources via telephone connection, 22, and … | Page 273 lines 6-19. | Controller, 20, transfers the telephone number, 1-800-AUDITOR, to auto dialer, 24, and causes said dialer, 24, to dial said number. Said first computer answers said telephone call, and in a fashion well known in the art, controller, 20, and said first computer automatically establish telephone communications. Automatically, controller, 20, causes telephone connection, 22, to transfer particular identifying information that includes the unique digital identifying code of ROM, 21, to said first computer followed by a particular instruct-to- receive signal. Said instruct-to-receive signal causes said first computer automatically to prepare to receive audit records then to transfer a particular start signal via connection, 22, to controller, 20. |
| | | … can be reprogramed from such remote sources. | Page 537 lines 6-17. | At 3:10 AM, GMT, *said European master network station* transmits particular SPAM message information, embedded in the information of said master transmission, including a SPAM end of file signal and the aforementioned sequence of SPAM messages |

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| | | | | that contain operating system instructions. In so doing, said European master network station inputs operating system instructions to all SPAM apparatus and receiver station computers, 73, and microcomputers, 205, thereby causing said apparatus and computers, 73 and 205, as described above in "PREPROGRAMMING RECEIVER STATION OPERATING SYSTEMS," to commence operating under control of the instructions of said operating systems. |
| | | | with respect to page 555 line 24 to page 556 line 14. | ...particular information of said TELEPHON.EXE module that causes ... signal processor, 200, to transmit the information ... via telephone network in the fashion of example #10, to a computer at a particular remote data collection station.<br>Over the course of a particular time such as two days, computers at remote data collection stations receive data automatically from each farmer of said nations which data indicates the specific quantity of each crop that each farmer expects to harvest during the 2027 growing season. Automatically, the received data is aggregated, in a fashion well known in the art, at the computer of said *European master network* origination and control *station* ...<br>Then, at 3:59 PM, on Thursday, February 18, 2027, the cycle of generating and communicating information of farmers is repeated ... |
| said receiver station selecting and storing at least some of said operating instructions; | Column 9 line 23. | ... and [the controller, 20] can be reprogramed from such remote sources. | Page 537 lines 6-17. | At 3:10 AM, GMT, *said European master network station* transmits particular SPAM message information, embedded in the information of said master transmission, including a SPAM end of file signal and the aforementioned sequence of SPAM messages that contain operating system instructions. In so doing, said European master network station inputs operating system instructions to all SPAM apparatus and receiver station |

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| | | | | computers, 73, and microcomputers, 205, thereby causing said apparatus and computers, 73 and 205, as described above in "PREPROGRAMMING RECEIVER STATION OPERATING SYSTEMS," to commence operating under control of the instructions of said operating systems. |
| | | | with respect to page 555 line 24 to page 556 line 14. | … particular information of said TELEPHON.EXE module that causes … signal processor, 200, to transmit the information … via telephone network in the fashion of example #10, to a computer at a particular remote data collection station.<br>Over the course of a particular time such as two days, computers at remote data collection stations receive data automatically from each farmer of said nations which data indicates the specific quantity of each crop that each farmer expects to harvest during the 2027 growing season. Automatically, the received data is aggregated, in a fashion well known in the art, at the computer of said *European master network* origination and control *station* …<br>Then, at 3:59 PM, on Thursday, February 18, 2027, the cycle of generating and communicating information of farmers is repeated … |
| | Column 5 lines 16-20. | [The apparatus] has a read only memory for recording permanent operating instructions and other information and a programmable random access memory controller ("PRAM controller") that permits **revision** of operating patterns and instructions. | Page 16 lines 6-10. | [The apparatus] has a read only memory for recording permanent operating instructions and other information and a programmable random access memory controller ("PRAM controller") that permits revision of operating patterns and instructions. |
| transmitting from a second remote source to said receiver station a signal which | Column 19 lines 60-63. | At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission. | Page 59 lines 29-33. | A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. |

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| | | | Page 25 line 34 to page 26 line 1.<br><br>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11. | At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.<br><br>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor … |
| controls said receiver station to at least one of locate and process to said event signal based on said operating instructions. | Column 15 lines 22-25. | … and [signal processors, 100, 103, 106, 109, and 112, could] telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or **transfer** of incoming programing transmissions. | Page 312 lines 6-8. | … may interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information. |
| | *For example*<br>Column 15 lines 1-4. | If signal processor, **112**, can identify, processes, and transfer the needed signal or signals, decryptor/interruptor, **115**, can decrypt and/or transfer the incoming transmission from box, **114**, satisfactorily. | *For example*<br>Page 291 lines 21-32.<br><br>Page 294 lines 28-35. | In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, select the information of the execution segment in said message, and determine that said selected information matches the aforementioned instance of enable-next-program-on-CC13 information at said particular controlled-function-invoking information location. So determining a match causes the control processor, 39J, to execute particular preprogrammed transfer-this-message-to- controller-20 instructions that are associated with the instance of information at said particular location.<br><br>Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions. |

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| | | | | Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission, … |
| 19. A method of controlling at least | Column 19 lines 60-63. | At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission. | Page 59 lines 29-33.<br><br>Page 25 line 34 to page 26 line 1.<br><br>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11. | A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.<br><br>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.<br><br>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor … |
| one of a plurality of receiver stations each of said plurality of receiver stations | Column 17 lines 47-53. | FIG **6** illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. **6F** and **6G** is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit. | Page 390 lines 30-35.<br><br>Page 396 lines 8-10. | Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.<br><br>Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the |

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| | | | | following individual examples. |
| | Column 3 lines 48-51. | Another method has application at receiver sites such as private homes or public places like theaters, hotels, brokerage offices, etc., whether commercial establishments or not. | Page 12 lines 30-35. | It is the further purpose of this invention to provide means and methods for the automation of ultimate receiver stations, ... Such ultimate receiver stations may be private homes or offices or commercial establishments such as theaters, hotels, or brokerage offices. |
| includes a receiver, | Column 6 lines 23-30. | A signal processor apparatus for simultaneous use with a cablecast input that conveys both television and radio programing and a broadcast television input is shown in Figure **1**. As shown, the input signals are the entire range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design. | Page 29 lines 4-15. | Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input. ... The inputted information is the entire range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design. |
| at least one output device, | Column 20 lines 16-19. | Suppose a viewer watches a television program on cooking techniques that is received on TV set, **202**, via box, **201**. Julia Childs's "The French Chef" is one such program. | Page 470 lines 1-3 and<br><br>Page 470 lines 9-12.<br><br>Page 470 lines 19-21. | ...transmits the programming transmission of a particular conventional television program on cooking techniques that is called "Exotic Meals of India."<br><br>At the station of Fig. 7 and 7F (which station is a subscriber station of the intermediate station of Fig. 6), in the fashions described above, apparatus is caused to receive the particular transmission of said program that is ...<br><br>... to display the television information of said transmission (that is, information of said audio and video) at monitor, 202M. |
| a control signal detector, | Column 9 lines 53-57. | The local oscillator, being thus sequenced, will allow each signal decoder, **30** and **40**, to receive a particular frequency at a particular time interval. | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to |

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| | | | | decoder, 30 … Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | | | Page 265 line 27 to Page 266 line 21. | Said radio-detection-complete information causes … controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 … After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, … causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. |
| | | This will define the timing of the composite outputs of the digital detectors, **34**, **37**, and **38** in FIG. **2A**, and **43** in FIG. **2B**. | Page 250 lines 13-17. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command. |
| | | | 251 lines 8-11. | Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; … |
| | | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits |

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| | | | | said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. |
| | | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| at least one processor capable of responding to at least one digital instruct signal, | Column 6 lines 23-26. | A signal processor apparatus for simultaneous use with a cablecast input that conveys both television and radio programing and a broadcast television input is shown in Figure 1. | Page 29 lines 4-7. | Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input. |
| | Column 7 lines 50-58. | Processor or monitor, 12, analyzes, in a pre-determined fashion, the signal words and units that it receives and determines whether they are to be passed to external equipment or to buffer/comparator, 14, for further processing or both. If a signal or signals are to be passed externally, processor unit, 12, identifies, in a pre-determined fashion, the external equipment to which the signal or signals are **addressed** and passes them to appropriate jack ports for external transmission. | Page 31 lines 10-18. | Controller, 12, receives the signals inputted from buffer/comparator, 8, and decryptor, 10; analyzes said signals in a predetermined fashion; and determines whether they are to be transferred to external equipment or to buffer/comparator, 14, or both. If a signal or signals are to be transferred externally, in a predetermined fashion controller, 12, identifies the external apparatus to which the signal or signals are **addressed** and transfers them to the appropriate port or ports for external transmission. |
| | Column 9 lines 31-33. | A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission. | Page 22 lines 1-6. | … a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full. |
| | | | Page 14 line 35 to page 15 line 2. | Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. |
| | | | Page 36 lines 2-3. | … processes signal information embedded in an inputted radio frequency. |

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| | | | Page 36 lines 19-20. | … processes signal information embedded in a frequency other than a television or radio frequency. |
| and with each said receiver station adapted to detect and respond to said at least one digital instruct signal, said method comprising the steps of: | Column 6 lines 48-50. | This base band signal is then transmitted through separate paths to three separate detector devices. | Page 34 line 35 to page 35 line 1. | This base band signal is then transferred through separate paths to three separate detector devices. |
| | Column 7 lines 50-54. | Processor or monitor, **12**, analyzes, in a pre-determined fashion, the signal words and units that it receives and determines whether they are to be passed to external equipment or to buffer/comparator, **14**, for further processing or both. | Page 31 lines 10-14. | Controller, 12, receives the signals inputted from buffer/comparator, 8, and decryptor, 10; analyzes said signals in a predetermined fashion; and determines whether they are to be transferred to external equipment or to buffer/comparator, 14, or both. |
| receiving at a transmitter station said at least one digital | Column 10 lines 30-39. | The facility receives programing from many sources. Transmissions may be received from satellites by satellite antenna, **50**, low noise amplifiers, **51** and **52**, and TV receivers, **53**, **54**, **55**, and **56**. Microwave transmissions can be received by microwave antenna, **57**, and television video and audio receivers, **58** and **59**. Conventional TV broadcast transmissions can be received by antenna, **60**, and TV demodulator, **61**. Other electronic programing input means, **62**, can receive programing transmissions. | Page 324 lines 23-31. | The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. |
| | Column 9 lines 31-33. | A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission. | Page 22 lines 1-6. | … a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full. |
| | | | Page 14 line 35 to page 15 line 2. | Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. |
| | | | Page 36 lines 2-3. | … processes signal information embedded in an inputted radio frequency. |
| | | | Page 36 lines 19-20. | … processes signal information embedded in |

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| | | | | a frequency other than a television or radio frequency. |
| | Column 4 lines 5-6. | These techniques employ signals embedded in programs. | Page 13 lines 25-26. | The present invention employs signals embedded in programming. |
| | Column 10 lines 61-64<br>Column 11 lines 38-39 | | | |
| instruct signal which is operative at said at least one receiver station to react to | Column 8 lines 58-60. | Control signals can be passed to the apparatus by means of the programing transmissions input at switch, 1, and mixer, 2. | Page 290 lines 26-31. | … causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; … |
| | | | Page 291 lines 21-24. | In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, … |
| | | | Page 59 lines 29-31. | A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. |
| | Column 5 lines 16-20. | [The apparatus] has a read only memory for recording permanent operating instructions and other information and a programmable random access memory controller ("PRAM controller") that permits **revision** of operating patterns and instructions. | Page 16 lines 6-10. | [The apparatus] has a read only memory for recording permanent operating instructions and other information and a programmable random access memory controller ("PRAM controller") that permits **revision** of operating patterns and instructions. |
| one of the presence and | Column 8 lines 20-27. | The signal processor apparatus also has a controller device which includes programable random access memory controller **20**, read only memory **21** that may contain a unique digital code capable of identifying the signal processing apparatus uniquely, an automatic dialing device **24**, and a telephone unit, **22**. The controller, **20**, governs the operation of all | Page 33 lines 7-20. | Signal processor, 26, has a controller device which includes programmable RAM controller, 20; ROM, 21, that may contain unique digital code information capable of identifying signal processor, 26, and the subscriber station of said processor, 26, uniquely; an automatic dialing device 24; and a telephone unit, 22. … Controller, 20, has capacity for controlling the operation of all |

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| | | operating elements of the apparatus. | | elements of the signal processor … |
| | Column 9 lines 65-68. | [Controller, 20] instructs processor or monitor, **12**, how to identify what signals to pass externally and where to pass them and what signals to transfer to buffer/comparator, **14**. | Page 149 lines 8-16. | Then said decrypt-a-00-header-message instructions cause controller, 20, to transmit to controller, 12, a particular *transfer-decrypted-message instruction* and particular decryption mark information of key J that identifies J as the decryption key.<br>Receiving said instruction and information causes controller, 12, to execute particular preprogrammed *transfer- and-meter instructions* then record said mark of key J at particular decryption-mark-@12 register memory. |
| | | | Page 150 lines 7-9. | Under control *of said transfer-and-meter instructions,* controller, 12, commences receiving decrypted information of the second message from decryptor, 10. |
| | | | Page 150 lines 16-21. | Automatically controller, 12, processes said information of the second message of example #2 as a SPAM command. Receiving the header and execution segment causes controller, 12, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message accordingly. |
| | | | Page 152 line 18 to page 153 line 1. | Receiving said complete-transfer-phase instruction causes controller, 12, to cease transferring information, under control *of said transfer-and-meter instructions,* to deactivate all output ports, and to commence executing the meter instructions of said transfer-and-meter instructions. Said meter instructions cause controller, 12, to … transfer to buffer/comparator, 14, particular header identification information that identifies controller, 12, as the source of said transfer the information recorded at said SPAM-meter memory then the information recorded at said decryption-mark- @12 register memory, which information is the decryption mark of |

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| | | | | key J. (Hereinafter, said meter information generated by the second combining synch command in example #2 is called the "2nd meter information (#2).") |
| the absence of an event signal | Column 8 line 68 to column 9 line 4. | Buffer/comparator, 8, and monitor or processor, 12, each have the capacity to inform controller, 20, when signals that they … look for in predetermined fashions, set by and changeable by controller, 20, fail to appear. | Page 258 lines 10-19. | Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, automatically causes control processor, 39J, to cause all apparatus of decoder, 30, cease receiving SPAM message information and delete all information received on said wireless channel 9 and causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| | Column 4 lines 36-46. | In addition, the pattern of the composition, timing, and location of the signals may vary in such ways that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly. | Page 13 lines 19-24. | [The means and methods of this invention] also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly. |
| | | Both the arrangement of signal units in signal words and the locations, timings, and lengths of signal words in individual transmissions or groups of transmissions may vary in fashions that can only be interpreted accurately by apparatus that are **preprogramed** with the keys to such variations. | Page 14 lines 13-25. | In television audio, [signals] are likely to lie between eight and fifteen kilohertz. In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming in the conventional transmission stream but will include instructions that receiver station apparatus are preprogrammed to process that instruct receiver apparatus to separate the signals from the conventional programming and process them differently. In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction. |

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| | | | Page 60 line 19 to page 61 line 1. | SPAM messages are composed of elements--headers, execution segments, meter-monitor segments, and information segments--whose bit lengths vary. SPAM apparatus determine the bit length of said elements in different fashions, and the particular fashion that applies to any given element relates to the priority of said element for subscriber station speed of processing. First priority segment information has the highest priority for speedy processing and is of fixed binary bit length. A SPAM header is one example of a first priority segment. An execution segment is another example. Intermediate priority segment information has lower priority, varies in bit length, but contains internal length information. A Meter-monitor segment is one example of an intermediate priority segment. Lowest priority segment information has the lowest priority, varies in length, and contains no internal information for determining segment length. Each information segment is an example of a lowest priority segment. |
| | | | Page 91 lines 18-20. | All subscriber station apparatus are fully **preprogrammed** to perform automatically each step of each example. No manual step is required at any station. |
| and delivering said at least one digital instruct signal to a transmitter; | Column 10 lines 40-47. | All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, **75**), to one or more video recorder/players, **76** and **78**, and/or to equipment that outputs them over various channels to the cable system's field distribution system, **93**, which equipment includes here cable channel modulators, **83**, **87**, and **91**, and channel combining and multiplexing system, **92**. | Page 324 line 31 to page 325 line 4. | Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire, a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78, apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92. |
| | Column 19 lines 10-11 | | | |

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| | Column 19 lines 14-15<br>Column 19 lines 17-23 | | | |
| receiving at said transmitter station at least one digital control signal which, at the receiver station , operates to communicate said at least one digital instruct signal to said at least one processor; and | Column 10 lines 30-39. | The facility receives programing from many sources. Transmissions may be received from satellites by satellite antenna, **50**, low noise amplifiers, **51** and **52**, and TV receivers, **53**, **54**, **55**, and **56**. Microwave transmissions can be received by microwave antenna, **57**, and television video and audio receivers, **58** and **59**. Conventional TV broadcast transmissions can be received by antenna, **60**, and TV demodulator, **61**. Other electronic programing input means, **62**, can receive programing transmissions. | Page 324 lines 23-31. | The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. |
| | Column 9 lines 31-33. | A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission. | Page 22 lines 1-6.<br><br>Page 14 line 35 to page 15 line 2.<br><br>Page 36 lines 2-3.<br><br>Page 36 lines 19-20. | … a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.<br><br>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.<br><br>… processes signal information embedded in an inputted radio frequency.<br><br>… processes signal information embedded in a frequency other than a television or radio frequency. |
| | Column 8 lines 62-65. | The processor unit, **12**, has the capacity to identify instruction signals for controller, **20**, and pass them to controller, **20**, over control information lines. | Page 59 lines 29-31.<br><br>For example, page 531 lines 17-22. | A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.<br><br>Said contained messages that are addressed to apparatus such as decoder, 30, PRAM controller, 20, and switch controller, 20A, that exist within the equipment case of a signal |

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| | | | | processor, 200, are inputted to said apparatus from controller, 12, via controller, 20, rather than via matrix switch, 259 … |
| | Column 10 lines 61-64<br>Column 11 lines 38-43<br>Column 11 lines 50-57 | | | |
| transferring said at least one digital control signal to said transmitter, said transmitter transmitting | Column 10 lines 40-47. | All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, **75**), to one or more video recorder/players, **76** and **78**, and/or to equipment that outputs them over various channels to the cable system's field distribution system, **93**, which equipment includes here cable channel modulators, **83**, **87**, and **91**, and channel combining and multiplexing system, **92**. | Page 324 line 31 to page 325 line 4. | Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire, a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78, apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92. |
| said at least one digital instruct signal and said | Column 9 lines 31-33. | A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission. | Page 22 lines 1-6.<br><br>Page 14 line 35 to page 15 line 2.<br><br>Page 36 lines 2-3.<br><br>Page 36 lines 19-20. | … a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.<br><br>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.<br><br>… processes signal information embedded in an inputted radio frequency.<br><br>… processes signal information embedded in a frequency other than a television or radio frequency. |
| | Column 8 lines 58-60. | Control signals can be passed to the apparatus by means of the programing transmissions input at switch, **1**, and mixer, **2**. | Page 290 lines 26-31. | … causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, |

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| | | | | and to input said selected to TV signal decoder, 30; … |
| | | | Page 291 lines 21-24. | In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, … |
| | | | Page 59 lines 29-31. | A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. |
| | Column 5 lines 16-20. | [The apparatus] has a read only memory for recording permanent operating instructions and other information and a programmable random access memory controller ("PRAM controller") that permits **revision** of operating patterns and instructions. | Page 16 lines 6-10. | [The apparatus] has a read only memory for recording permanent operating instructions and other information and a programmable random access memory controller ("PRAM controller") that permits revision of operating patterns and instructions. |
| at least one digital control signal. | Column 9 lines 31-33. | A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission. | Page 22 lines 1-6. | … a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full. |
| | | | Page 14 line 35 to page 15 line 2. | Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. |
| | | | Page 36 lines 2-3. | … processes signal information embedded in an inputted radio frequency. |
| | | | Page 36 lines 19-20. | … processes signal information embedded in a frequency other than a television or radio frequency. |
| | Column 8 lines 62-65. | The processor unit, **12**, has the capacity to identify instruction signals for controller, **20**, and pass them to controller, **20**, over control information lines. | Page 59 lines 29-31. | A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. |

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| | | | For example, page 531 lines 17-22. | Said contained messages that are addressed to apparatus such as decoder, 30, PRAM controller, 20, and switch controller, 20A, that exist within the equipment case of a signal processor, 200, are inputted to said apparatus from controller, 12, via controller, 20, rather than via matrix switch, 259 … |
| 20. The method of claim 19, wherein at least one of said instruct signal | Column 19 lines 60-62. | At this point, an instruction signal is generated in the television studio originating the programing … | Page 59 lines 29-33. | A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. |
| | | | Page 25 lines 34-35. | At this point, an instruction signal is generated at said program originating studio, … |
| | | | Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11. | The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205. |
| and identification data in respect of said instruct signal | Column 19 lines 14-15. | … pass all program and channel identifiers on all programing being cablecast on the multi-channel system. | Page 435 lines 16-18. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C … |
| | | | Page 248 lines 22-26 from example #5. | Via a conventional multi- channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2. |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | Reference | Language | Reference | Language |
| | | | Page 250 lines 13-16 from example #5. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program … |
| | | | Page 252 lines 15-35 from example #5. | Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of … execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment segment) then meter-monitor segment information that includes the **"program unit identification code"** and subject matter information of said first command and **the channel mark of cable channel 13** … (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, … |
| | | | Page 267 lines 20-28 from example #5. | All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | Reference | Language | Reference | Language |
| | | | | can guide station control apparatus to desired programming.) |
| is embedded in at least one of a television signal and | Column 4 lines 5-6. | These techniques employ signals embedded in programs. | Page 13 lines 25-26. | The present invention employs signals embedded in programming. |
| in a signal containing a television program. | Column 19 lines 14-15. | … pass all program and channel identifiers on all programing being cablecast on the **multi-channel** system. | Page 435 lines 16-18. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C … |
| | | | Page 248 lines 22-26 from example #5. | Via a conventional multi- channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2. |
| | | | Page 250 lines 13-16 from example #5. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program … |
| | | | Page 252 lines 15-35 from example #5. | Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of … execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment segment) then meter-monitor segment information that includes the **"program unit identification code"** and subject matter information of said first command and **the channel mark of cable channel 13** … (Said message whose |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | Reference | Language | Reference | Language |
| | | | | transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ... |
| | | | Page 267 lines 20-28 from example #5. | All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) |
| 21. The method of claim 19, wherein a switch communicates signals selectively from | | Matrix Switch, 75, in Fig. 3B. | | Matrix Switch, 75, in Fig. 6A. |
| said receiver and | | TV receiver, 53, in Fig. 3A. | | TV receiver, 53, in Fig. 6A. |
| at least one of a memory and | | VTR, 78, in Fig. 3B. | Page 324, line 35. | 78, in Fig. 6A.<br>recorder/players, 76 and 78 |
| a recorder to | | Recorder and Player, 76, in Fig. 3B. | | Recorder and Player, 76, in Fig. 6A. |
| said transmitter, said method further comprising one from the group consisting of: | | Cable Channel Modulator, 83, in Fig. 3C. | | Cable Channel Modulator, 83, in Fig. 6B. |
| detecting a signal which is effective at the transmitter station to | Column 11 lines 38-46. | By comparing identification signals on the incoming programing with the programing schedule received earlier from local input, **74**, and/or from a remote site via network, **98**, controller/computer, **73**, can determine when and on what channel or channels the head end facility should transmit the programing. | Page 327 line 35 to page 328 line 13. | Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | Reference | Language | Reference | Language |
| | | Controller/computer, **73**, has means for communicating control information with matrix switch, **75**, and video recorder/players, **76** and **78**. | | and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.<br>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. |
| | | | Page 84 lines 26-28. | SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... |
| | | | Page 28 lines 26-27. | ... monitor information that identifies what programming is available, ... |
| | | | Page 49 lines 26-27. | Meter-monitor segments contain meter information and/or monitor information. |
| | | | Page 328 lines 14-16. | Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ... |
| instruct communication; | Column 11 lines 54-57. | ... controller/computer, **73**, instructs matrix switch, **75**, to configure its switches so as to transfer programing transmissions inputted from TV receiver, **53**, to the output that leads to modulator, **87**. | Page 328 line 31 to page 329 line 1. | In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87. |
| determining a specific signal source from which to communicate a signal to said transmitter; | Column 11 lines 50-54. | For example, if controller/computer, **73**, determines that programing incoming via receiver, **53**, should be transmitted immediately to the field distribution system, **93**, via cable channel modulator, **87**, ... | Page 328 lines 22-31. | For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63.<br>Receiving said message causes computer, 73, to determine ... that said "code" information |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | Reference | Language | Reference | Language |
| | | | | matches … schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. |
| controlling said switch to communicate a signal to said transmitter | Column 11 lines 54-57. | … controller/computer, **73**, instructs matrix switch, **75**, to configure its switches so as to transfer programing transmissions inputted from TV receiver, **53**, to the output that leads to modulator, **87**. | Page 328 line 31 to page 329 line 1. | In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87. |
| in response to a signal which is effective at the transmitter station to instruct communication; | Column 11 lines 38-46. | By comparing identification signals on the incoming programing with the programing schedule received earlier from local input, **74**, and/or from a remote site via network, **98**, controller/computer, **73**, can determine when and on what channel or channels the head end facility should transmit the programing.<br>Controller/computer, **73**, has means for communicating control information with matrix switch, **75**, and video recorder/players, **76** and **78**. | Page 327 line 35 to page 328 line 13. | Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.<br>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. |
| | | | Page 84 lines 26-28. | SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions…. |
| | | | Page 28 lines 26-27. | … monitor information that identifies what programming is available, … |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | Reference | Language | Reference | Language |
| | | | Page 49 lines 26-27.<br><br>Page 328 lines 14-16. | Meter-monitor segments contain meter information and/or monitor information.<br><br>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, … |
| controlling said switch to communicate a signal from | Column 11 lines 54-57. | … controller/computer, **73**, instructs matrix switch, **75**, to configure its switches so as to transfer programing transmissions inputted from TV receiver, **53**, to the output that leads to modulator, **87**. | Page 328 line 31 to page 329 line 1. | In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87. |
| a selected signal source; and | Column 11 lines 50-54. | For example, if controller/computer, **73**, determines that programing incoming via receiver, **53**, should be transmitted immediately to the field distribution system, **93**, via cable channel modulator, **87**, … | Page 328 lines 22-31. | For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine … that said "code" information matches … schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. |
| controlling said switch to communicate to at least one of said memory and said recorder a signal | Column 11 lines 61-64. | … in a predetermined fashion, to record the incoming programing, instructs matrix switch, **75**, to transfer the programing to the designated recorder/player, **76** or **78**, … | Page 329 lines 13-20. | … in its preprogrammed fashion, … to … record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. |
| which is effective at the receiver station to instruct. | Column 8 lines 58-60. | Control signals can be passed to the apparatus by means of the programing transmissions input at switch, **1**, and mixer, **2**. | Page 290 lines 26-31. | … causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; … |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | Reference | Language | Reference | Language |
| | | | Page 291 lines 21-24. | In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, … |
| | | | Page 59 lines 29-31. | A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. |
| 22. The method of claim 19, wherein a controller controls a switch to communicate to said transmitter at least one of a selected mass medium program and | Column 11 lines 54-57. | … controller/computer, **73**, instructs matrix switch, **75**, to configure its switches so as to transfer programing transmissions inputted from TV receiver, **53**, to the output that leads to modulator, **87**. | Page 328 line 31 to page 329 line 1. | In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87. |
| control signal, further comprising one from the group consisting of: | Column 19 lines 43-44. | … instruction signals embedded in the "Wall Street Week" programing transmission. | Page 21 lines 23-24. | … instruction signals embedded in the "Wall Street Week" programming transmission. |
| detecting a signal which is effective at the transmitter station to | Column 11 lines 38-46. | By comparing identification signals on the incoming programing with the programing schedule received earlier from local input, **74**, and/or from a remote site via network, **98**, controller/computer, **73**, can determine when and on what channel or channels the head end facility should transmit the programing.<br>Controller/computer, **73**, has means for communicating control information with matrix switch, **75**, and video recorder/players, **76** and **78**. | Page 327 line 35 to page 328 line 13. | Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.<br>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | Reference | Language | Reference | Language |
| | | | | channel or channels the station of Fig. 6 should transmit the programming of each received program unit. |
| | | | Page 84 lines 26-28. | SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... |
| | | | Page 28 lines 26-27. | ... monitor information that identifies what programming is available, ... |
| | | | Page 49 lines 26-27. | Meter-monitor segments contain meter information and/or monitor information. |
| | | | Page 328 lines 14-16. | Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ... |
| instruct transmission; | Column 11 lines 50-57. | ... if controller/computer, **73**, determines that programing incoming via receiver, **53**, should be transmitted immediately to the field distribution system, **93**, via cable channel modulator, **87**, controller/computer, **73**, instructs matrix switch, **75**, to configure its switches so as to transfer programing transmissions inputted from TV receiver, **53**, to the output that leads to modulator, **87**. | Page 328 line 22 to page 329 line 1. | For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87. |
| inputting to said controller a signal which is effective to | Column 11 lines 32-39. | By means of the signals, with channel indicators, received from code reader, **72**, controller/computer, **73**, can determine | Page 327 line 35 to page 328 line 13. | Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | Reference | Language | Reference | Language |
| | | what specific programing and programing unit has been received by each receiver, **53** through **62**, and is passing in line on each individual wire to matrix switch, **75**.<br>By comparing identification signals on the incoming programing with the programing schedule … | | 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.<br>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. |
| | | | Page 84 lines 26-28. | SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions…. |
| | | | Page 28 lines 26-27. | … monitor information that identifies what programming is available, … |
| | | | Page 49 lines 26-27. | Meter-monitor segments contain meter information and/or monitor information. |
| control said switch; | Column 11 lines 50-57. | … if controller/computer, **73**, determines that programing incoming via receiver, **53**, should be transmitted immediately to the field distribution system, **93**, via cable channel modulator, **87**, controller/computer, **73**, instructs matrix switch, **75**, to configure its switches so as to transfer programing transmissions inputted from TV receiver, **53**, to the output that leads to modulator, **87**. | Page 328 line 22 to page 329 line 1. | For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| | | | | matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87. |
| controlling said switch to communicate said at least one instruct signal | Column 11 lines 50-57. | … if controller/computer, **73**, determines that programing incoming via receiver, **53**, should be transmitted immediately to the field distribution system, **93**, via cable channel modulator, **87**, controller/computer, **73**, instructs matrix switch, **75**, to configure its switches so as to transfer programing transmissions inputted from TV receiver, **53**, to the output that leads to modulator, **87**. | Page 328 line 22 to page 329 line 1. | For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87. |
| according to a transmission schedule; | Column 11 lines 38-43. | By comparing identification signals on the incoming programing with the programing schedule received earlier from local input, **74**, and/or from a remote site via netwcrk, **98**, controller/computer, **73**, can determine when and on what channel or channels the head end facility should transmit the programing. | Page 327 line 35 to page 328 line 13. | Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.<br>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what |

| Claim Language | Support to parent application filed November 3, 1981: | | Support to instant specification. | |
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| | | | | channel or channels the station of Fig. 6 should transmit the programming of each received program unit. |
| | | | Page 84 lines 26-28. | SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... |
| | | | Page 28 lines 26-27. | ... monitor information that identifies what programming is available, ... |
| | | | Page 49 lines 26-27. | Meter-monitor segments contain meter information and/or monitor information. |
| controlling said switch to communicate a signal from a specific one of | Column 11 lines 50-57. | ... if controller/computer, **73**, determines that programing incoming via receiver, **53**, should be transmitted immediately to the field distribution system, **93**, via cable channel modulator, **87**, controller/computer, **73**, instructs matrix switch, **75**, to configure its switches so as to transfer programing transmissions inputted from TV receiver, **53**, to the output that leads to modulator, **87**. | Page 328 line 22 to page 329 line 1. | For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87. |
| a plurality of instruct signal sources; and | Column 19 lines 43-44. | ... instruction signals embedded in the "Wall Street Week" programing transmission. | Page 21 lines 23-24. | ... instruction signals embedded in the "Wall Street Week" programming transmission. |
| controlling said switch to communicate said at least one instruct signal to a selected one | Column 11 lines 50-57. | ... if controller/computer, **73**, determines that programing incoming via receiver, **53**, should be transmitted immediately to the field distribution system, **93**, via cable | Page 328 line 22 to page 329 line 1. | For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said |

| Claim Language | Support to parent application filed November 3, 1981. | | Support to instant specification. | |
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| of | | channel modulator, **87**, controller/computer, **73**, instructs matrix switch, **75**, to configure its switches so as to transfer programing transmissions inputted from TV receiver, **53**, to the output that leads to modulator, **87**. | | message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87. |
| | Column 19 lines 43-44. | … instruction signals embedded in the "Wall Street Week" programing transmission. | Page 21 lines 23-24. | … instruction signals embedded in the "Wall Street Week" programming transmission. |
| a plurality of transmitters. | Column 10 lines 43-47. | … and/or to equipment that outputs them over various channels to the cable system's field distribution system, **93**, which equipment includes here cable channel modulators, **83**, **87**, and **91**, and channel combining and multiplexing system, **92**. | Page 325 lines 1-4. | … apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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## I. COLUMN 1

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
|---|---|---|---|
| Column 1 lines 1-22. | **SIGNAL PROCESSING APPARATUS AND METHODS** **BACKGROUND OF THE INVENTION** At the present time, vast amounts of programing are transmitted through various media throughout the United States which programing is handled with significant degrees of manual processing as different, discrete units of programing transmitted on single channel systems. Broadcasters and cablecasters transmit programing with the expectation that viewers in one place tune to only onechannel at a time. On occasion and on a limited scale, the co-ordination of two media and two channels has occurred. Such co ordination has taken the form of stereo simulcasts where one local television station broadcasts a program, generally of classical music, and simultaneously, a local radio station broadcasts the same music in stereo. But such simulcasts require significant degrees of manual processing at both the points of origination and reception. | Page 7 lines 7-12. | [The prior art] has no capacity for coordinating the programming content transmitted by any given peripheral system with any other programming transmitted to a television receiver. It has no capacity for controlling two separate systems such as, for example, an automatic radio and television stereo simulcast. |
| Column 1 lines 23-28. | Today great potential exists for a significant increase in the scope and scale of multimedia and multichannel presentations. This increase is desirable because it will increase variety and add substantially to the richness of presentations as regards both entertainment and the communications of ideas and information. | Page 2 lines 20-23. | Unlocking this potential is desirable because these new media will add substantial richness and variety to the communication of ideas, information and entertainment. |
| Column 1 lines 29-35. | This potential arises out of two simultaneous, independent trends. One is the development and growth of the so-called cable television industry whose member companies deliver locally not one but many channels of programing. The other is the widespread and growing ownership of computers, especially microcomputers in homes. | Page 2 lines 8-11. | Today great potential exists for combining the capacity of broadcast communications media to convey ideas with the capacity of computers to process and output user specific information. |
| Column 1 lines 36-41. | It is the object of this invention to unlock this potential by the development of means and methods which permit programing to communicate with equipment that is external to television and radio receivers, particularly computers and computer peripherals such as printers. | Page 3 lines 30-33,<br><br>Page 2 line 25 to page 3 line 8. | It is the object of this invention to unlock this great potential in the fullest measure by means of an integrated system of programming communication that joins together all these capacities most efficiently.<br><br>To unlock this potential fully requires means and methods for combining and controlling receiver systems that are now separate--television and computers, radio and computers, broadcast print and computers, television and computers and broadcast print, etc. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | But it requires much more.<br>To unlock this potential fully requires a system with efficient capacity for satisfying the demands of subscribers who have little receiver apparatus and simple information demands as well as subscribers who have extensive apparatus and complex demands. It requires capacity for transmitting and organizing vastly more information and programming than any one-channel transmission system can possibly convey at one time. It requires capacity for controlling intermediate transmission stations that receive information and programming from many sources and for organizing the information and programming and retransmitting the information and programming so as to make the use of the information and programming at ultimate receiver stations as efficient as possible. |
| Column 1 lines 42-44 | It is the further purpose of this invention to provide means and methods to process and monitor such transmissions and presentations at individual receiver sites… | Page 3 lines 9-29. | To unlock this potential also requires efficient capacity for providing reliable audit information to (1) advertisers and others who pay for the transmission and performance of programming and (2) copyright holders, pay service operators, and others such as talent who demand, instead, to be paid. This requires capacity for identifying and recording (1) what television, radio, data, and other programming and what instruction signals are transmitted at each transmission station and (2) what is received at each receiver station as well as (3) what received programming is combined or otherwise used at each receiver station and (4) how it is received, combined, and/or otherwise used.<br>Moreover, this system must have the capacity to ensure that programming supplied for pay or for other conditional use is used only in accordance with those conditions. For example, subscriber station apparatus must display the commercials that are transmitted in transmissions that advertisers pay for. The system must have capacity for decrypting, in many varying ways, programming and instruction signals that are encrypted and for identifying those who pirate programming and inhibiting piracy. |
| Column 1 lines 45-49. | …and to control, in certain ways, the use of transmitted programing and the operation of certain associated equipment. Such receiver sites may be stations or systems that intend to retransmit the programing, or they may be end users of the programing. | Page 11 lines 23-27. | It is the further purpose of this invention to provide means and methods whereby a simplex point-to-multipoint transmission (such as a television or radio broadcast) can cause simultaneous generation of user specific information at a plurality of subscriber stations. |
| Column 1 lines 49-53. | The present invention contemplates that certain data may be encrypted and that certain data collected from such processing | Page 13 lines 5-9. | In the present invention, certain monitored signals may be encrypted, and certain data collected from such monitoring |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | and monitoring will automatically be transfered to a remote geographic location or locations. | | may be automatically transferred from subscriber stations to one or more remote geographic stations. |
| Column 1 lines 54-57. | In the prior art, there have been attempts to develop systems to control programing and systems to monitor programing, but the two have been treated as separate systems, and each has had limited capacity. | Page 2 lines 25-30. | To unlock this potential fully requires means and methods for combining and controlling receiver systems that are now separate--television and computers, radio and computers, broadcast print and computers, television and computers and broadcast print, etc. |
| Column 1 line 58 to column 2 line 27. | As regards control systems, cueing systems and equipment now exist that transmit instructions to operating equipment at receiver sites by means of tone signals that are carried, in television transmissions, in the audio portion and may be heard by the human ear. Such systems and devices are used to turn on equipment such as videotape players and recorders that have been manually loaded and to tell such equipment how long to run. Such systems operate by transmitting operating signals that precede and follow programing and are called "headers" and "trailers" respectively. The use of headers and trailers limits prior art in that headers and trailers can become separated from programing, thereby hampering automatic operations. Such prior art techniques have lacked the capacity to process the programing in various ways including to instruct receiver end equipment what specific programing to select to play or record other than that immediately at hand, how to load it on player or recorder equipment, when and how to play it or record it other than immediately, how to modify it, what equipment or channel or channels to transmit it on, when to transmit it, and how and where to file it or refile it or dispose of it. (Within television studios that are original transmitters of programing, certain systems and equipment do exist for certain automatic co-ordination of players, loaders, and other equipment; however, manual instructions still must be given, on site, for the co-ordination of such equipment which instructions are transmitted electronically on hard- wire channels that are strictly separate from the channels on which the programing is transmitted and such instructions are never broadcast.) Such prior art systems and equipment have lacked the capacity to automatically coordinate multi- hannel and multi-media presentations. They have lacked the capacity to decrypt encrypted processing signals. They have lacked the capacity to monitor whether receiver-end equipment are following instructions properly. | Generally, page 4 line 17 to page 7 line 22. | This prior art is limited. It only transmits data; it does not control data processing. No system is preprogrammed to simultaneously control a plurality of central processor units, operating systems, and pluralities of computer peripheral units. None has capacity to cause simultaneous generation of user specific information at a plurality of receiver stations. None has any capacity to cause subscriber station computers to process received data, let alone in ways that are not inputted by the subscribers. None has any capacity to explain automatically why any given information might be of particular interest to any subscriber or why any subscriber might wish to select information that is not selected or how any subscriber might wish to change the way selected information is processed.<br>...<br>This prior art, too, is limited. It has no capacity to overlay any information other than information transmitted to all receiver stations simultaneously. It has no capacity to overlay any such information except in the order in which it is received. It has no capacity to cause receiver station computers to generate any information whatsoever, let alone user specific information. It has no capacity to cause overlays to commence or cease appearing at receiver stations, let alone commence and cease appearing periodically.<br>As regards the automation of intermediate transmission stations, various so-called "cueing" systems in the prior art operate in conjunction with network broadcast transmissions to automate the so-called "cut-in" at local television and radio stations of locally originated programming such as so-called "local spot" advertisements.<br>...<br>This prior art, too, is limited. It has no capacity to schedule automatically or transmit any programming other than that loaded immediately at the play heads of the controlled video players. It has no capacity to load the video players or |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | identify what programming is loaded on the players or verify that scheduled programs are played correctly. It has no capacity to cause the video players to record programming from any source. It has no capacity to receive programming transmissions or process received transmissions in any way. It has no capacity to operate under the control of instructions transmitted by broadcasters. It has no capacity to insert signals that convey information to or control, in any way, the automatic operation of ultimate receiver station apparatus other than television receivers.<br>...<br>This prior art, too, is limited. It has no capacity for interconnecting or operating a system at any time other than the time when the order to do so is entered manually at the system or remote keyboard. It has no capacity for acting on instructions transmitted by broadcasters to interconnect, actuate or tune systems peripheral to a television receiver or to actuate a television receiver or automatically change channels received by a receiver. It has no capacity for coordinating the programming content transmitted by any given peripheral system with any other programming transmitted to a television receiver. It has no capacity for controlling two separate systems such as, for example, an automatic radio and television stereo simulcast. It has no capacity for selectively connecting radio receivers to radio peripherals such as computers or printers or speakers or for connecting computers to computer peripherals (except perhaps a television set). It has no capacity for controlling the operation of decryptors or selectively inputting transmissions to decryptors or outputting transmissions from decryptors to other apparatus. It has no capacity for monitoring and maintaining records regarding what programming is selected or played on any apparatus or what apparatus is connected or how connected apparatus operate. |

## II. COLUMN 2

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| Column 2 lines 28-62. | As regards monitoring systems, various systems and devices have been developed to determine what programing is played on television. One such system for monitoring programs is described in U.S. Patent to Haselwood, et al. No.4,025,851. Another that monitors by means of audio codes that are only "substantially inaudible" is described in | Generally page 7 line 23 to page 9 line 5. | The prior art includes a variety of systems for monitoring programming and generating so-called "ratings." One system that monitors by means of embedded digital signals is described in U.S. Patent to Haselwood, et al. No. 4,025,851. Another that monitors by means of audio codes that are only "substantially inaudible" is described in U.S. Patent to |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | U.S. Patent to Crosby No. 3,845,391. Recently devices, called addressable converters, have been developed that facilitate so-called pay-per-view marketing of programing by monitoring what individual television receivers tune to and either permitting or preventing the tuners to tune to given frequencies satisfactorily. Such prior art techniques and equipment have been limited to monitoring single broadcast stations, channels or units and have lacked the ability to monitor multimedia presentations. They have been able to monitor only the audio or the video portion of television transmissions. They have been able either to monitor what is transmitted over one channel or what is received by one or more receivers but not both. They have lacked the capacity to record and transfer information simultaneously. They have been unable to decrypt encrypted signals. They have been able to monitor only single signal word types or word lengths that are placed, within the transmissions, in locations that are unvarying and unvariable. They have lacked the capacity to compare, assemble, and/or evaluate multi-word, multi-location signals. Except in the possible case of addressable converters, they have been unable to distinguish the absence of signals or signal words in transmissions. They have lacked the capacity to communicate processing instructions to external equipment as described in the paragraph above. It is the object of the present invention to overcome these and other deficiencies of the prior art. | | Crosby No. 3,845,391. A third that automatically monitors a plurality of channels by switching sequentially among them and that includes capacity to monitor audio and visual quality is described in U.S. Patent to Greenberg No. 4,547,804.<br>This prior art, too, is limited. It has capacity to monitor only single broadcast stations, channels or units and lacks capacity to monitor more than one channel at a time or to monitor the combining of media. At any given monitor station, it has had capacity to monitor either what is transmitted over one or more channels or what is received on one or more receivers but not both. It has assumed monitored signals of particular format in particular transmission locations and has lacked capacity to vary formats or locations or to distinguish and act on the absence of signals or to interpret and process in any fashion signals that appear in monitored locations that are not monitored signals. It has lacked capacity to identify encrypted signals then decrypt them. It has lacked capacity to record and also transfer information to a remote geographic location simultaneously.<br>As regards recorder/player systems, many means and methods exist in the prior art for recording television or audio programming and/or data on magnetic, optical or other recording media and for retransmitting prerecorded programming. Video tape recorders have capacity for automatic delayed recording of television transmissions on the basis of instructions input manually by viewers. So-called "interactive video" systems have capacity for locating prerecorded television programming on a given disc and transmitting it to television receivers and locating prerecorded digital data on the same disc and transmitting them to computers.<br>This prior art, too, is limited. It has no capacity for automatically embedding signals in and/or removing embedded signals from a television transmission then recording the transmission. It has no capacity for controlling the connection or actuation or tuning of external apparatus. It has no capacity for retransmitting prerecorded programming and controlling the decryption of said programming, let alone doing so on the basis of signals that are embedded in said programming that contain keys for the decryption of said programming. It has no capacity for operating on the basis of control signals transmitted to |

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| | | | recorder/players at a plurality of subscriber stations, let alone operating on the basis of such signals to record user specific information at each subscriber station. |
| Column 2 lines 63-64. | (The term "signal unit" hereinafter means one complete signal instruction or information message unit. | Page 14 lines 26-27. | (The term "signal unit" hereinafter means one complete signal instruction or information message unit. |
| Column 2 lines 65-66. | Examples of signal units are a unique code identifying a programing unit,… | Page 14 lines 27-29. | Examples of signal units are a unique code identifying a programming unit, …. |
| Column 2 lines 66-67. | …or a unique purchase order number identifying the proper use of a programing unit,… | Page 14 lines 27-30. | Examples of signal units are…a unique purchase order number identifying the proper use of a programming unit, or …. |
| Column 2 line 67 to column 3 line 3. | …or a general instruction identifying whether a programing unit is to be retransmitted immediately or recorded for delayed transmission. | Page 14 lines 27-32. | Examples of signal units are…a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission. |

## III. COLUMN 3

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| Column 3 lines 3-5. | The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. | Page 14 lines 32-35. | The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. |
| Column 3 lines 6-8. | Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. | Page 14 line 35 to page 15 line 2. | Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. |
| Column 3 lines 8-12. | Such strings may or may not have predetermined data bits to identify the beginnings and ends of words. Signal words may contain parts of signal units, whole signal units, or groups of partial or whole signal units or combinations.) | Page 15 lines 2-6. | Such strings may or may not have predetermined data bits to identify the beginnings and ends of words. Signal words may contain parts of signal units, whole signal units, or groups of partial or whole signal units or combinations.) |
| Column 3 lines 13-27. | It is a further object of the present invention to process and monitor signals on numerous channels by sequentially scanning each channel in a predetermined manner which manner may be varied. It is also an object of the present invention to prevent unauthorized use of signals and programing by permitting signal encryption, the variation of word numbers, word lengths, word compositions, and/or word locations. It is also an object of this system to process different signal words in different ways. It is also an object of the present invention to provide a record of signals that may be transferred to a geographically distant location on command or predetermined instruction.<br>Other objects of this invention will appear from the following descriptions and the appended claims. | Page 3 lines 21-2\\9. | Moreover, this system must have the capacity to ensure that programming supplied for pay or for other conditional use is used only in accordance with those conditions. For example, subscriber station apparatus must display the commercials that are transmitted in transmissions that advertisers pay for. The system must have capacity for decrypting, in many varying ways, programming and instruction signals that are encrypted and for identifying those who pirate programming and inhibiting piracy. |
| Column 3 line 29. | **SUMMARY OF THE INVENTION** | *See generally* page 11 | **SUMMARY OF THE INVENTION** |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | | line 4 to page 14 line 30. | |
| Column 3 lines 30-31. | The present invention consists of methods and apparatus with several forms. | Page 16 lines 15-27. | A central objective of the present invention is to provide flexibility in regard to installed station apparatus. At any given time, the system must have capacity for wide variation in individual station apparatus in order to provide individual subscribers the widest range of information options at the least cost in terms of installed equipment. Flexibility must exist for expanding the capacity of installed systems by means of transmitted software and for altering installed systems in a modular fashion by adding or removing components. Flexibility must exist for varying techniques that restrict programming to duly authorized subscribers in order to identify and deter pirates … |
| Column 3 lines 32-37. | One method provides a technique whereby a broadcast or cablecast transmission facility can duplicate the operation of a television studio automatically through the use of instruction and information signals embedded in programing either supplied from a remote source or sources or prerecorded. | Page 12 lines 18-24.<br><br>Page 11 lines 16-19. | It is the further purpose of this invention to provide means and methods for the automation of intermediate transmission stations that receive and retransmit programming. The programming may be delivered by any means including over-the-air, hard-wire, and manual means. The stations may transmit programming over-the-air (hereinafter, "broadcast") or over hard-wire (hereinafter, "cablecast").<br><br>… the present invention has capacity for transmitting data and control instructions in the same information stream to many different apparatus at a given subscriber station, for causing computers to generate and transmit programming, … |
| Column 3 lines 37-39. | The programing may be delivered to the transmission facility by any means including broadcast, hard-wire, and manual means. | Page 12 lines 21-24. | The programming may be delivered by any means including over-the-air, hard-wire, and manual means. The stations may transmit programming over-the-air (hereinafter, "broadcast") or over hard-wire (hereinafter, "cablecast"). |
| Column 3 lines 39-41. | The transmission facility may transmit a single channel or multiple channels of programing. | Page 12 lines 25. | They may transmit single channels or multiple channels. |
| Column 3 lines 41-45. | The method includes a monitoring technique to construct a record for each transmitted channel that duplicates the log that the Federal Communications Commission requires broadcast station operators to maintain. | Page 12 lines 25-29. | The present invention includes capacity for automatically constructing records for each transmitted channel that duplicate the logs that the Federal Communications Commission requires broadcast station operators to maintain. |
| Column 3 lines 45-47. | The method permits the transfer of such records to a predetermined site or sites in a predetermined fashion or fashions. | Page 337 lines 19-21 | And said signal processor apparatus can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99 respectively. |
| Column 3 lines 48-51. | Another method has application at receiver sites such as private homes or public places like theaters, hotels, brokerage offices, etc., whether commercial establishments or not. | Page 12 lines 30-35. | It is the further purpose of this invention to provide means and methods for the automation of ultimate receiver stations, … Such ultimate receiver stations may be private homes or offices or commercial establishments such as theaters, hotels, |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | or brokerage offices. |
| Column 3 lines 51-56. | This method provides techniques whereby, automatically, single channel, single medium presentations, be they television, radio, or other electronic transmissions, may be recorded, co-ordinated in time with other programing previously transmitted and recorded, or processed in other fashions. | Page 12 lines 30-33. | It is the further purpose of this invention to provide means and methods for the automation of ultimate receiver stations, especially the automation of combined medium and multi-channel presentations. |
| | | Page 2 lines 8-19. | Today great potential exists for combining the capacity of broadcast communications media to convey ideas with the capacity of computers to process and output user specific information. One such combination would provide a new radio-based or broadcast print medium with the capacity for conveying general information to large audiences--e.g., "Stock prices rose today in heavy trading,"--with information of specific relevance to each particular user in the audience--e.g., "but the value of your stock portfolio went down." (Hereinafter, the new media that result from such combinations are called "combined" media.) |
| | | Page 2 lines 26-30. | ... methods for combining and controlling receiver systems that are now separate--television and computers, radio and computers, broadcast print and computers, television and computers and broadcast print, etc. |
| | | Page 13 lines 10-13. | It is a further purpose of this invention to provide means and methods for recording combined media and/or multi-channel programming and for playing back prerecorded programming of such types. |
| Column 3 lines 56-60. | Multimedia presentations may be co-ordinated in time and/or in place as, for example, when real-time video programing is co-ordinated with presentations from a microcomputer working with data supplied earlier. | Page 12 lines 3-9. | It is the further purpose of this invention to provide means and methods whereby a simplex broadcast transmission can cause periodic combining of relevant user specific information and conventional broadcast programming simultaneously at a plurality of subscriber stations, thereby integrating the broadcast information with each user's own information. |
| | | Page 2 lines 8-19. | Today great potential exists for combining the capacity of broadcast communications media to convey ideas with the capacity of computers to process and output user specific information. One such combination would provide a new radio-based or broadcast print medium with the capacity for conveying general information to large audiences--e.g., "Stock prices rose today in heavy trading,"--with information of specific relevance to each particular user in the |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | audience--e.g., "but the value of your stock portfolio went down." (Hereinafter, the new media that result from such combinations are called "combined" media.) |
| | | Page 28 lines 2-3. | This television based combined medium is but one example of many combined media. |
| Column 3 lines 60-66. | This method provides techniques whereby the timing and fashion of the playing, processing, and co-ordination of a presentation or presentations may be determined at the time and place of transmission or of presentation, either in whole or in part, either locally or remotely, or a combination of these factors. | Page 11 lines 23-31. | It is the further purpose of this invention to provide means and methods whereby a simplex point-to-multipoint transmission (such as a television or radio broadcast) can cause simultaneous generation of user specific information at a plurality of subscriber stations. One advantage of the present invention is great ease of use. For example, as will be seen, a subscriber can cause his own information to be processed in highly complex ways by merely turning his television receiver on and tuning to a particular channel. |
| | | Page 450 lines 27-35. | (To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.) .... |
| Column 3 line 66 to column 4 line 2. | The method provides monitoring techniques to develop data on patterns of viewership and to permit the detemination of specific usage at individual receiving sites for various purposes including, for example, the billing of individual customers. | Page 13 lines 1-9. | It is the further purpose of this invention to provide means and methods for identifying and recording what television, radio, data, and other programming is transmitted at each transmission station, what programming is received at each receiver station, and how programming is used. In the present invention, certain monitored signals may be encrypted, and certain data collected from such monitoring may be automatically transferred from subscriber stations to one or more remote geographic stations. |
| | | Page 28 lines 29-35. | It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage. |

## IV. COLUMN 4

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| Column 4 lines 2-4. | The method provides techniques whereby unauthorized use of programing and/or of signals may be prevented. | Page 13 lines 14-17. | It is a further purpose of this invention to provide a variety of means and methods for restricting the use of transmitted communications to only duly authorized subscribers. |
| Column 4 lines 5-6. | These techniques employ signals embedded in programs. | Page 13 lines 25-26. | The present invention employs signals embedded in programming. |
| Column 4 line 6. | The advantage of such embedded signals,… | Page 13 line 26. | Embedded signals provide several advantages. |
| Column 4 lines 6-9. | …as compared to header and trailer signals, is that they cannot become separated inadvertantly from the programing and, thereby, inhibit automatic processing,… | Page 13 lines 27-28. | They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. |
| Column 4 lines 9-12. | …that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programing,… | Page 13 lines 28-31. | They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. |
| Column 4 lines 12-13. | …and that they can be monitored. | Page 13 lines 31-32. | They can be conveniently monitored. |
| Column 4 lines 13-14. | (The techniques described here may use headers and trailers from time to time.) | Page 344 line 33 to page 345 line 14. | Separating the transmission of the end of each program unit and the commencement of the succeeding unit is a brief interval of time. Before transmitting the first program unit and, subsequently, in each one of said intervals, said distribution station transmits a SPAM message that contains execution and meter-monitor segments. Each message contains the same execution segment information that is addressed to ITS computers, 73, and instructs each computer, 73, to identify the information in the meter-monitor segment of said message, to compare said "code" information to the preprogrammed schedule information of said computer, 73, and if a match results, to select and record the programming of the program unit that follows said message, or if no match results, to not select and not record said programming. Each message contains meter-monitor "program unit identification code" information of the program unit that immediately follows. |
| Column 4 lines 14-17. | The embedded signals may run and repeat continuously throughout the programing or they may run only occasionally or only once. | Page 14 lines 3-5. | In programming transmissions, given signals may run and repeat, for periods of time, continuously or at regular intervals. Or they may run only occasionally or only once. |
| Column 4 lines 17-18. | They may appear in various and varying locations. | Page 14 line 6. | They may appear in various and varying locations. |
| Column 4 lines 18-22. | In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set. | Page 14 lines 6-11. | In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set. |
| Column 4 lines 22-25. | In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear. | Page 14 lines 11-14. | In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| Column 4 lines 25-26. | In television audio, they are likely to lie between eight and fifteen kilohertz. | Page 14 lines 14-15. | In television audio, they are likely to lie between eight and fifteen kilohertz. |
| Column 4 lines 26-28. | Signals may also be transmitted on frequencies outside the ranges of television and radio. | Page 14 lines 15-17.<br><br>Page 463 lines 10-29. | In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming....<br><br>(To minimize the risk that program instruction sets may become separated from their associated television programming, said sets are normally embedded in their associated television transmissions. But it is not an absolute requirement of the preferred embodiment that all program instruction sets be so embedded. If the volume of program instruction set information that a given programming transmission must transmit exceeds the transmission capacity of said transmission [eg., if the audience includes viewers who do not have overlay capacity and would see "snow" were set information transmitted in portions of the transmission obscured by overlays], at the proper time transmission stations can transmit said set information outside the conventional transmission [a program originating studio may transmit said set information, for example, in a satellite side lobe of the transponder transmission transmitting the conventional transmission, and a cable head end intermediate transmission station transmits it in a separate television channel or in a transmission in a multiplexed FM frequency spectrum transmission].) |
| Column 4 lines 28-30. | Different and differing numbers of signals may be sent in different and differing word lengths and locations. | Page 533 lines 9-17. | In the preferred embodiment...SPAM messages are composed of varying numbers and sequences of segments of highest priority, intermediate priority, and lowest priority segment information. Complex SPAM receiver apparatus have means and are preprogrammed to process at register memory execution segment information of varying lengths of binary information. |
| Column 4 lines 31-33. | The present invention provides a method for obscuring the meaning of the signals to prevent unauthorized use of the signals and of their associated programing. | Page 13 lines 14-17. | It is a further purpose of this invention to provide a variety of means and methods for restricting the use of transmitted communications to only duly authorized subscribers. |
| Column 4 lines 34-36. | Their meanings may be obscured through encryption so that apparatus described below are necessary to decrypt them. | Page 13 lines 17-19. | Such means and methods include techniques for encrypting programming and/or instructions and decrypting them at subscriber stations. |
| Column 4 lines 36-40. | In addition, the pattern of the composition, timing, and location of the signals may vary in such ways that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process | Page 13 lines 19-24. | They also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | the signals correctly. | | time will be able to process the signals correctly. |
| Column 4 lines 40-46. | Both the arrangement of signal units in signal words and the locations, timings, and lengths of signal words in individual transmissions or groups of transmissions may vary in fashions that can only be interpreted accurately by apparatus that are preprogramed with the keys to such variations. | Page 14 lines 10-25.<br><br>Page 60 line 19 to page 61 line 1.<br><br>Page 91 lines 18-20. | ... [signals] will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear. In television audio, they are likely to lie between eight and fifteen kilohertz. In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming in the conventional transmission stream but will include instructions that receiver station apparatus are preprogrammed to process that instruct receiver apparatus to separate the signals from the conventional programming and process them differently. In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.<br><br>SPAM messages are composed of elements—headers, execution segments, meter-monitor segments, and information segments--whose bit lengths vary. SPAM apparatus determine the bit length of said elements in different fashions, and the particular fashion that applies to any given element relates to the priority of said element for subscriber station speed of processing. First priority segment information has the highest priority for speedy processing and is of fixed binary bit length. A SPAM header is one example of a first priority segment. An execution segment is another example. Intermediate priority segment information has lower priority, varies in bit length, but contains internal length information. A Meter-monitor segment is one example of an intermediate priority segment. Lowest priority segment information has the lowest priority, varies in length, and contains no internal information for determining segment length. Each information segment is an example of a lowest priority segment.<br><br>All subscriber station apparatus are fully preprogrammed to perform automatically each step of each example. No manual step is required at any station. |
| Column 4 lines 47-49. | The present invention also provides a method for identifying attempts to make unauthorized use of signals and the programing associated with signals. | Page 293 lines 32-35. | At each station where a match fails to occur--which suggests that the preprogrammed SPAM operating information of said station has been tampered with in an unauthorized |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
|---|---|---|---|
| | | | fashion--not resulting in a match causes… |
| Column 4 lines 49-50. | When an apparatus finds that signal words fail to appear in places… | Page 293 lines 28-33. | (Simultaneously other stations compare information of other selected information of bit locations that contain information of said enable-CC13 instructions with information of other local bit locations that hold preprogrammed SPAM operating information. At each station where a match fails to occur--which suggests that the preprogrammed SPAM…. |
| Column 4 line 51. | …and at times when and where they are expected,… | Page 300 lines 10-12. | In due course, but still before said 8:30 PM time, said program originating studio embeds in the video portion and transmits particular SPAM check information…. |
| | | Page 301 lines 4-10. | (Simultaneously other stations compare selected information of said check sequence to selected information of said 1st-stage-enable-WSW-program instructions. At each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with…. |
| Column 4 lines 51-53. | …the apparatus may automatically contact one or more remote sites… | Page 294 lines 10-13. | ….causes said controller, 20, to cause the auto dialer, 24, and telephone connection, 22, to establish telephone communications with a particular predetermined remote station, in the fashion described above…. |
| | | Page 301 lines 18-21. | …said portion causes controller, 20, to cause the auto dialer, 24, and telephone connection, 22, of said station to establish telephone communications with a particular predetermined remote station, in the fashion described above,…. |
| Column 4 lines 53-54. | …and may or may not disable the flow of programing in one or more ways. | Page 294 lines 1-3, | …controller, 20, of said station to cause all information of said local-cable-enabling-message (#7) to be erased from all memory of said station…. |
| | | lines 25-27. | …causes said controller, 20, to erase all preprogrammable RAM and EPROM of the signal processing apparatus at said station, thereby disabling said apparatus.) |
| | | Page 301 lines 11-14, | …resulting in a match causes the controller, 20, of said station to cause all information of said 1st-WSW-program-enabling-message (#7) to be erased from all memory of said station…. |
| | | lines 28-30. | …the instructions of said portion cause said controller, 20, to |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | | | erase all preprogrammable RAM and EPROM of the signal processing apparatus at said station,.... |
| Column 4 lines 55-56. | The present invention contemplates signal processing apparatus... | Page 15 lines 7-8. | In the present invention, particular signal processing apparatus (hereinafter called the "signal processor") |
| Column 4 lines 56-57. | ...comprising a device or devices that can selectively scan transmission channels as directed. | Page 15 lines 12-14. | The apparatus include one or more devices that can selectively scan transmission frequencies as directed.... |
| Column 4 lines 57-59. | The channels may convey television, radio, or other transmission frequencies. | Page 15 lines 16-17. | The frequencies may convey television, radio, or other programming transmissions. |
| Column 4 lines 59-60. | The input transmissions may be received by means of antennas or from hard-wire connections. | Page 15 lines 17-19. | The input transmissions may be received by means of antennas or from hard-wire connections. |
| Column 4 lines 61-62. | The scanners/switches, working in parallel or series or combinations, transfer the transmissions... | Page 15 lines 19-21. | The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors.... |
| Column 4 lines 62-65. | ...to receiver/decoder/detectors that identify signals encoded in programing transmissions and convert the encoded signals to digital information;... | Page 15 lines 21-23. | ...transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information;.... |
| Column 4 lines 65-67. | ...decryptors that may convert the received information, in part or in whole, to other digital information according to preset methods or patterns;... | Page 15 lines 23-26. | ...decryptors that may convert the received information, in part or in whole, to other digital information according to preset methods or patterns; .... |
| Column 4 line 68 to column 5 line 2. | ...and one or more processor/monitors and/or buffer/ comparators that organize and transfer the information stream. | Page 15 lines 26-28. | ...and one or more processor/monitors and/or buffer/comparators that organize and transfer the information stream. |

## V. COLUMN 5

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| Column 5 lines 2-4. | The processors and buffers can have inputs from each of the receiver/detector lines and evaluate information continuously. | Page 15 lines 28-30. | The processors and buffers can have inputs from each of the receiver/detector lines and evaluate information continuously. |
| Column 5 lines 4-7. | From the processors and buffers, the signals may be transferred to external equipment such as computers, videotape recorders and players, etc. | Page 15 lines 30-32. | From the processors and buffers, the signals may be transferred to external equipment such as computers, videotape recorders and players, etc. |
| Column 5 lines 7-11. | And/or they may be transferred to one or more internal digital recorders that receive and store in memory the recorded information and have connections to one or more remote sites for further transmission of the recorded information. | Page 15 line 32 to page 16 line 1. | And/or they may be transferred to one or more internal digital recorders that receive and store in memory the recorded information and have connections to one or more remote sites for further transmission of the recorded information. |
| Column 5 lines 11-14. | The apparatus has means for external communication and an automatic dialer and can contact remote sites and transfer stored information as required in a predetermined fashion or fashions. | Page 16 lines 1-3. | The apparatus has means for external communication and an automatic dialer and can contact remote sites and transfer stored information.... |
| Column 5 lines 14-16. | The apparatus has a clock for determining and recording time as required. | Page 16 lines 4-6. | The apparatus has a clock for determining and recording time as required. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| Column 5 lines 16-20. | It has a read only memory for recording permanent operating instructions and other information and a programmable random access memory controller ("PRAM controller") that permits revision of operating patterns and instructions. | Page 16 lines 6-10. | It has a read only memory for recording permanent operating instructions and other information and a programmable random access memory controller ("PRAM controller") that permits revision of operating patterns and instructions. |
| Column 5 lines 20-22. | The PRAM controller may be connected to all internal operating units for full flexibility of operations. | Page 16 line 10-11. | The PRAM controller may be connected to all internal operating units for full flexibility of operations. |
| Column 5 lines 23-27. | Signal processing apparatus that are employed in specific situations that require fewer functions than those provided by the basic apparatus described above may omit one or more of the specific operating elements described above. | Page 16 lines 12-15. | Signal processing apparatus that are employed in specific situations that require fewer functions than those provided by the signal processor described above may omit one or more of the specific operating elements described above. |
| Column 5 line 29. | **BRIEF DESCRIPTION OF THE DRAWINGS** | *See generally* page 16 line 33 to page 19 line 1. | **BRIEF DESCRIPTION OF THE DRAWINGS** |
| Column 5 lines 30-31. | Fig. 1 is a block diagram of one embodiment of signal processing apparatus. | Page 17 lines 9-10. | Fig. 2 is a block diagram of one embodiment of a signal processor. |
| Column 5 lines 32-33. | Fig. 2A is a block diagram of a TV signal decoder apparatus. | Page 17 lines 11-12. | Fig. 2A is a block diagram of a TV signal decoder apparatus. |
| Column 5 lines 34-35. | Fig. 2B is a block diagram of a radio signal decoder apparatus. | Page 17 lines 13-14. | Fig. 2B is a block diagram of a radio signal decoder apparatus. |
| Column 5 lines 36-37. | Fig. 2C is a block diagram of an other signal decoder apparatus. | Page 17 lines 15-16. | Fig. 2C is a block diagram of an other signal decoder apparatus. |
| Column 5 lines 38-41. | Figs. 3A 3B and 3C are a block diagram of signal processing apparatus and methods as they might be used in an intermediate transmission facility, in this case a cable system head end. | Page 18 lines 13-15. | Fig. 6 is a block diagram of one example of signal processing apparatus and methods at an intermediate transmission station, in this case a cable system headend. |
| Column 5 lines 42-57. | Fig. 4A is a block diagram of a signal processor and a programing decryptor or other interrupt means with signals input to the signal processor before programing decryption. Also included is a local input.<br>Fig. 4B is a block diagram of a signal processor and a decryptor/interruptor with signals input to the signal processor in programing after programing decryption.<br>Fig. 4C is a block diagram of a signal processor and a decryptor/interruptor with signals input both before and after programing decryption.<br>Fig. 4D is a block diagram of a signal processor and a multiple decrypter/interrupters in series, with signals input both before and after programing decryption.<br>Fig. 4E is a block diagram of a signal processor and multiple decryptor/interruptors and with signals from one channel needed for decryption of a second channel. | Page 18 lines 8-9. | Fig. 4 is a block diagram of one example of a signal processing programming reception and use regulating system. |
| Column 5 lines 58-60. | Fig. 5 is a block diagram of signal processor apparatus | Page 18 lines 10-12. | Fig. 5 is a block diagram of one example of a signal |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | monitoring various programing and viewership patterns. | | processing apparatus and methods monitoring system installed to monitor a subscriber station. |
| Column 5 lines 61-64. | Fig. 6A is a block diagram of signal processor apparatus and methods used to instruct and inform external equipment governing the environment of the local receiver site. | Page 18 lines 18-20. | Fig. 7A is a block diagram of signal processing apparatus and methods with external equipment regulating the environment of the local receiver site. |
| Column 5 lines 65-68. | Fig. 6B is a block diagram of signal processor apparatus and methods used to co-ordinate a multi-media, multi-channel presentation and monitor such viewership. | Page 18 lines 21-23. | Fig. 7B is a block diagram of signal processing apparatus and methods used to control a combined medium, multi-channel presentation and to monitor such viewership. |

**VI. COLUMN 6**

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| Column 6 lines 1-4. | Fig. 6C is a block diagram of signal processor apparatus and methods used to organize the reception of selected information and programing and to co-ordinate multi-media, multi-channel presentations in time. | Page 18 lines 24-27,<br><br>And lines 30-31. | Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations.<br><br>Fig. 7E is a block diagram of a television/computer combined medium receiver station. |
| Column 6 lines 5--7. | Fig. 6D is a block diagram of another example of multi-media, multi-channel co-ordination. In this case, the co-ordintation of video and print. | Page 18 lines 32-33. | Fig. 7F is a block diagram of an example of controlling television and print combined media. |
| Column 6 lines 8-12. | Fig. 6E is a block diagram of signal processing techniques co-ordinated with programming decryptions techniques to facilitate electronic distribution of copyrighted materials while discouraging pirating and unauthorized copying. | Page 18 lines 8-9,<br><br>with page 534 line 4<br><br>& lines 14-22. | Fig. 4 is a block diagram of one example of a signal processing programming reception and use regulating system.<br><br>recorder/players, 217 and 217A; two television tuners, 215<br><br>Each farmer's laser disc player, 232, is loaded with a so-call "optical disk" on which is recorded a file named "PROPRIET.MOD" that contains encrypted information of a proprietary software module. When accessed, the instructions of said module cause a microcomputer, 205, to analyze any given crop planting plan and generate information of a recommended planting plan and growing method that minimizes the expense of insect and other crop pest damage given maximum revenue. |
| Column 6 lines 13-19. | FIGS. 6F and 6G comprise a block diagram of signal processor apparatus and methods as they might be used at a consumer receiver site.<br>FIG. 6H shows the relationship of FIGS. 3A, 3B and 3C.<br>FIG. 6J shows the relationship of FIGS. 6F and 6G. | Page 18 lines 16-17. | Fig. 7 is a block diagram of signal processing apparatus and methods at an ultimate receiver station. |
| Column 6 lines 20-41. | **Description of the Preferred Embodiments**<br>The Signal Processor Apparatus<br>A signal processor apparatus for simultaneous use with a cablecast input that conveys both television and radio | Page 29 lines 4-26. | Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | programing and a broadcast television input is shown in Figure 1. As shown, the input signals are the entire range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design. The cable transmission is input simultaneously to switch 1 and mixer 2. The broadcast transmission is input to switch 1. Switch 1 and mixers 2 and 3 are all controlled by local oscillator and switch control 6. The oscillator, 6, is controlled to provide a number of discrete specified frequencies for the particular radio and television channels required. The switch, 1, acts to select the broadcast input or the cablecast input and passes transmissions to mixer 3 which, with the controlled oscillator, 6, acts to select a television frequency of interest that is passed at a fixed frequency to a TV signal decoder, 30. | | At switch, 1, and mixers, 2 and 3, signal processor, 26, monitors all frequencies or channels available for reception at the subscriber station of Fig. 2 to identify available programming. The inputted information is the entire range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design. The cable transmission is inputted simultaneously to switch, 1, and mixer, 2. The broadcast transmission is inputted to switch, 1. Switch, 1, and mixers, 2 and 3, are all controlled by local oscillator and switch control, 6. The oscillator, 6, is controlled to provide a number of discrete specified frequencies for the particular radio and television channels required. The switch, 1, acts to select the broadcast input or the cablecast input and passes transmissions to mixer, 3, which, with the controlled oscillator, 6, acts to select a television frequency of interest that is passed at a fixed frequency to a TV signal decoder, 30. |
| Column 6 lines 42-57. | Decoder 30 is shown more fully in Figure 2A. In the decoder, 30, the frequency passes first through filter 31 which defines the particular channel of interest to be analyzed. The television channel signal is then transmitted to a standard amplitude demodulator, 32, which uses standard demodulator techniques well known in the art to define the television base band signal. This base band signal is then transmitted through separate paths to three separate detector devices. These separate detectors are designed to act on the particular frequency ranges in which the encoded information may be found. The first path, designated A, inputs to a standard line receiver, 33, well known in the art. This line receiver, 33, detects the existance of an embedded signal or signals in one or more of the lines normally used to define a television picture. | Page 34 line 21 to page 35 line 35. | Fig. 2A shows a TV signal decoder that detects signal information embedded in an inputted television frequency, renders said information into digital signals that subscriber station apparatus can process, identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus. Decoder, 203, in Fig. 1 is one such TV signal decoder; decoder, 30, in Fig. 2 is another.<br>In Fig. 2A, a selected frequency is inputted at a fixed frequency to said decoder at filter, 31, which defines the particular channel of interest to be analyzed. The television channel signal then passes to a standard amplitude demodulator, 32, which uses standard demodulator techniques, well known in the art, to define the television base band signal. This base band signal is then transferred through separate paths to three separate detector devices. The apparatus of these separate paths are designed to act on the particular frequency ranges in which embedded signal information may be found. The first path, designated A, detects signal information embedded in the video information portion of said television channel signal. Path A inputs to a standard line receiver, 33, well known in the art. Said line receiver, 33, receives the information of one or more of the lines normally used to define a television picture. It receives the information only of that portion or portions of the overall video transmission and passes said information to a digital detector, 34, which acts to detect the digital signal information embedded in said information, using standard detection techniques well |

| Parent Spec References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | known in the art, and inputs detected signal information to controller, 39, which is considered in greater detail below. The second path, designated B, detects signal information embedded in the audio information portion of said television channel signal. Path B inputs to a standard audio demodulator, 35, which uses demodulator techniques, well known in the art, to define the television audio transmission and transfers said audio information to high pass filter, 36. Said filter, 36, defines and transfers to digital detector, 37, the portion of said audio information that is of interest. The digital detector, 37, detects signal information embedded in said audio information and inputs detected signal information to controller, 39. The third path, designated C, inputs the separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal and inputs detected signal information to controller, 39. Line receiver, 33; high pass filter, 36; detectors, 34, 37, and 38; and controller, 39, all operate under control of controller, 39, and in preprogrammed fashions that may be changed by controller, 39. |
| Column 6 lines 57-61. | It receives and detects only that portion or portions of the overall video transmission and passes this line portion or portions to a digital detector, **34**, which acts to decode the encoded signal information in the line portion or portions. | Page 354 line 16-33. | Receiving the inputted frequency of interest of wireless channel 5 at decoder, 30, causes filter, 31, to filters the inputted fixed frequency and output the one TV channel signal of channel 5 to amplitude demodulator, 32; causing demodulator, 32, to demodulate said inputted channel signal and transfer the demodulated signal to line receiver, 33; causing line receiver, 33, to detect said embedded signal information and transmit it to digital detector, 34; causing digital detector, 34, to detect the binary information of said signal information and transfer said binary information to controller, 39. Receiving said binary information at controller, 39, causes the binary SPAM information of the wireless channel 5 transmission to be checked and corrected, as necessary, at processor, 39B; converted into locally usable binary information at processor, 39D; and checked for end of file signal information at EOFS valve, 39F, and transmitted to the null output of matrix switch, 39I, until EOFS valve, 39F, detects an end of file signal. |
| Column 6 line 61 to column 7 line 1. | The base band signal is also inputted through path B to an audio demodulator, **35**, which further inputs a high pass filter, **36**, and a digital detector, **37**. The digital detector, **37**, through standard detection techniques well known in the art, determines whether a particular signal is present in the transmission in a pre- determined fashion. Path C inputs the separately defined transmission to a digital detector, **38**. | Page 34 line 21 to page 35 line 35. | *See reference above.* |

## VII. COLUMN 7

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| Column 7 lines 1-5. | Detectors, **34**, **37**, and **38**, line receiver, **33**, and high pass filter, **36**, all operate in predetermined fashions which fashions may be changed by external controller, **20** (referring to Fig. **1**), to be described below. | Page 35 lines 31-35.<br><br>Page 33 lines 18-21. | Line receiver, 33; high pass filter, 36; detectors, 34, 37, and 38; and controller, 39, all operate under control of controller, 39, and in preprogrammed fashions that may be changed by controller, 39.<br><br>Controller, 20, has capacity for controlling the operation of all elements of the signal processor and can receive operating information from said elements. |
| Column 7 lines 6-11. | If one returns to FIG. **1**, one sees that the three separate lines of information outputted from TV signal decoder, **30**, are then gated to a buffer/comparator, **8**, which also receives other inputs from the other separate receivers comprising similar filters, demodulators, and decoders for other channels of interest. | Page 29 line 33 to page 30 line 5. | Decoder, 30, which is shown in detail in Fig. 2A, and decoder, 40, which is shown in Fig. 2B, detect signal information embedded in the respective inputted television and radio frequencies, … and output said signals and said modified signals to buffer/comparator, 8. |
| Column 7 lines 12-15. | One such other path is that from mixer **2**. Mixer **2** and the controlled oscillator, **6**, act to select a radio frequency of interest which is inputted to a radio signal decoder, **40**,… | Page 29 lines 26-29. | Simultaneously, mixer, 2, and the controlled oscillator, 6, act to select a radio frequency of interest which is inputted to a radio signal decoder, 40. |
| Column 7 lines 15-18. | …shown in FIG. **2B**. The frequency passes first through standard radio receiver circuitry, **41**, well known in the art, a radio decoder, **42**, and a standard digital detector, **43**. | Page 36 lines 1-14. | Fig. 2B shows a radio signal decoder that detects and processes signal information embedded in an inputted radio frequency. Decoder, 40, in Fig. 2 is one such radio signal decoder. A selected frequency of interest is inputted at a fixed frequency to standard radio receiver circuitry, 41, which receives the radio information of said frequency using standard radio receiver techniques, well known in the art, and transfers said radio information to radio decoder, 42. Radio decoder, 42, decoders the signal information embedded in said radio information and transfers said decoded information to a standard digital detector, 43. Said detector, 43, detects the binary signal information in said decoded information and inputs said signal information to controller, 44, discussed more fully below. |
| Column 7 lines 18-20. | All operate in predetermined fashions that may be changed by external controller, **20** (referring to Fig. **1**). | Page 36 lines 14-17.<br><br>Page 33 lines 18-21. | Circuitry, 41; decoder, 42; and detector, 43, all operate under control of controller, 44, and in predetermined fashions that may be changed by controller, 44.<br><br>Controller, 20, has capacity for controlling the operation of all elements of the signal processor and can receive operating information from said elements. |
| Column 7 lines 20-21. | As FIG. **1** shows, the radio signal detector outputs to | Page 29 line 32 to page | Decoder, 30, which is shown in detail in Fig. 2A, and |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | buffer/comparator **8**. | 30 line 5. | decoder, 40, which is shown in Fig. 2B, detect signal information embedded in the respective inputted television and radio frequencies, … and output said signals and said modified signals to buffer/comparator, 8. |
| Column 7 lines 22-24. | (The signal processor apparatus described here is configured to receive broadcast TV transmissions and cablecast TV and radio transmissions. | Page 29 lines 4-7. | Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input. |
| Column 7 lines 24-30. | Were it desirable to process signals in other transmissions such as broadcast microwave transmissions or cablecast transmissions on other than standard TV and radio frequencies, the mixers and switches would be appropriately reconfigured and one or more other signal decoders as described in FIG. **2C** would be added. | Page 33 lines 26-33. | … a signal processor can monitor any combination of inputs and transmission frequencies, and the signal processor of Fig. 2 is but one embodiment of a signal processor. Other embodiments can receive and monitor available programming in transmission frequencies other than radio and television frequencies through the addition of one or more other signal decoders such as that of Fig. 2C described below. |
| Column 7 lines 30-34. | As FIG. **2C** shows, the desired frequencies would pass through appropriate other receiver circuitry, **45**, well known in the art, and an appropriate digital detector, **46**, before being outputted to buffer/comparator **8**. | Page 36 lines 18-29. | Fig. 2C shows a signal decoder that detects and processes signal information embedded in a frequency other than a television or radio frequency. A selected other frequency (such as a microwave frequency) is inputted to appropriate other receiver circuitry, 45, well known in the art. Said receiver circuitry, 45, receives the information of said frequency using standard receiver techniques, well known in the art, and transfers said information to an appropriate digital detector, 46. Said detector, 46, detects the binary signal information in said information and inputs said signal information to controller, 47, considered more fully below. |
| Column 7 lines 34-35. | These, too, can be controlled by controller, **20** (ref. to Fig.1).) | Page 36 lines 29-31.<br><br>Page 33 lines 18-21. | Circuitry, 45, and detector, 46, operate under control of controller, 47, and in predetermined fashions that may be changed by controller, 47.<br><br>Controller, 20, has capacity for controlling the operation of all elements of the signal processor and can receive operating information from said elements. |
| Column 7 lines 36-37. | Buffer/comparator, **8**, organizes the data stream that it receives according to a pre-determined fashion… | Page 30 lines 7-9.<br><br>Page 36 line 32 to page 37 line 3. | Buffer/comparator, 8, receives said signals from said decoders and other signals from other inputs and organizes the received information in a predetermined fashion.<br><br>Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities. Said buffer capacity of controller, 39, 44, or 47, includes capacity for … organizing, … inputs …. |
| Column 7 lines 37-39. | …that enables buffer/comparator, **8**, among other things, to | Page 37 lines 22 to | Controller, 39, 44, or 47, is preprogrammed to receive |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | assemble signal units from signal words. | page 38 line 10. | units of signal information, to assemble said units into signal words that subscriber station apparatus can receive and process, and to transfer said words to said apparatus. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said controller, 39, 44, or 47, has one or more output ports for communicating signal information to said apparatus. |
| | | Page 156 line 33. | Fig. 3A shows one such preferred controller, 39. |
| | | Page 157 lines 5-7. | Buffer, 39C, and processor, 39D, are the second buffer and processor and perform protocol conversion functions. |
| | | Page 14 lines 22-25. | In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction. |
| Column 7 lines 39-43. | In a pre-determined fashion, buffer/comparator, **8**, identifies signal words and/or signal units that must be decrypted, either in whole or in part, and passes identified signal words and/or units to decrypter, **10**. | Page 30 lines 21-26. | In a fashion described more fully below, buffer/comparator, 8, and a controller, 20, which, too, is described more fully below, determine whether signal processor, 26, is enabled to decrypt said information. If signal processor, 26, is so enabled, buffer/comparator, 8, transfers said information to decryptor, 10. |
| Column 7 lines 43-46. | Decrypter, **10**, uses conventional decrypter techniques, well known in the art, in a pre-determined fashion to decrypt such signals as required. | Page 30 lines 31-35. | Decryptor, 10, is a standard digital information decryptor, well known in the art, that … uses conventional decryptor techniques, well known in the art, to decrypt said signals as required. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| Column 7 lines 46-47. | Decrypter, **10**, then passes the decrypted signals to processor or monitor, **12**. | Page 30 line 35 to page 31 line 1. | Decryptor, 10, transfers decrypted signals to controller, 12. |
| Column 7 lines 47-49. | Buffer/comparator, **8**, passes signal words and units not identified as requiring decryption directly to processor or monitor, **12**. | Page 30 lines 29-30. | Buffer/comparator, 8, transfers signals that do not require decryption directly to processor or controller, 12. |
| Column 7 lines 50-54. | Processor or monitor, **12**, analyzes, in a pre-determined fashion, the signal words and units that it receives and determines whether they are to be passed to external equipment or to buffer/comparator, **14**, for further processing or both. | Page 31 lines 10-14. | Controller, 12, receives the signals inputted from buffer/comparator, 8, and decryptor, 10; analyzes said signals in a predetermined fashion; and determines whether they are to be transferred to external equipment or to buffer/comparator, 14, or both. |
| Column 7 lines 54-58. | If a signal or signals are to be passed externally, processor unit, **12**, identifies, in a pre-determined fashion, the external equipment to which the signal or signals are addressed and passes them to appropriate jack ports for external transmission. | Page 31 lines 14-18. | If a signal or signals are to be transferred externally, in a predetermined fashion controller, 12, identifies the external apparatus to which the signal or signals are addressed and transfers them to the appropriate port or ports for external transmission. |
| Column 7 lines 59-60. | If they are to be processed further, processor or monitor, **12**, passes them to buffer/comparator, **14**. | Page 31 lines 18-22. | If they contain meter and/or monitor information and are to be processed further, controller, 12, selects, assembles, and transfers the appropriate information to buffer/comparator, 14. |
| Column 7 lines 60-64. | Processor or monitor, **12**, communicates with clock, **18**, and has means to delay the transfer of signals, in a predetermined fashion, when delayed transfer is determined, in a predetermined fashion, to be required. | Page 31 lines 26-29. | Controller, 12, receives time information from clock, 18, and has means to delay in a predetermined fashion the transfer of signals when, in a predetermined fashion, delayed transfer is determined to be required. |
| Column 7 lines 65-67. | Buffer/comparator, **14**, has means for identifying, according to a predetermined fashion, which signals are to be recorded. | Page 31 line 30 to page 32 line 6. | Buffer/comparator, 14, receives signal information that is meter information and/or monitor information … organizes said received information into meter records and/or monitor records (called, in aggregate, hereinafter, "signal records") … and transmits said signal records to a digital recorder, 16, and/or to one or more remote sites. … has capacity to determine, in a predetermined fashion or fashions, what received information should be recorded, … |
| Column 7 line 67 to column 8 line 1. | To avoid overloading digital recorder, **16**, with duplicate data, buffer/comparator, **14**, has means for counting and discarding duplicate signals. | Page 32 lines 9-12. | To avoid overloading digital recorder, 16, with duplicate data, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information…. |

**VIII. COLUMN 8**

| | | | |
|---|---|---|---|
| Column 8 lines 2-4. | Buffer/comparator, **14**, is connected to clock, **18**, and has means for adding information such as time of receipt, for example, to signals. | Page 32 lines 14-16. | Buffer/comparator, 14, receives time information from clock, 18, and has means for incorporating time information into signal records. |
| Column 8 lines 4-7. | Upon determining in a predetermined fashion that a signal | Page 31 line 30 to | Buffer/comparator, 14, receives signal information that is |

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| | word or unit should be passed,buffer/comparator, **14**, transmits the combined information to a digital recorder, **16**. | page 32 line 1. | meter information and/or monitor information from controller, 12, and from other inputs; organizes said received information into meter records and/or monitor records (called, in aggregate, hereinafter, "signal records") in a predetermined fashion or fashions; and transmits said signal records to a digital recorder, 16, … |
| Column 8 lines 7-12. | Buffer/ comparator, **14**, also has means for determining, in a predetermined fashion, when signals require transfer immediately to a remote site and for communicating such a requirement to controller, **20**, and such signals directly with the remote site via telephone connection, **22**. | Page 32 lines 16-20. | Buffer/comparator, 14, also has means for transferring received information immediately to a remote site or sites via telephone connection, 22, and for communicating a requirement for such transfer to controller, 20, which causes such transfer. |
| Column 8 lines 13-14. | Digital recorder, **16**, may be a memory storage element of standard design. | Page 32 lines 34-35. | Digital recorder, 16, is a memory storage element of standard design. … |
| Column 8 lines 14-16. | It has means for determining in a predetermined fashion how full it is and passing this information to controller, **20**. | Page 33 lines 2-4. | In a predetermined fashion, recorder, 16, can determine how full it is and transmit this information to controller, 20. |
| Column 8 lines 16-19. | The predetermined fashion may include provisions whereby recorder, **16**, informs controller, **20**, automatically when it reaches a certain level of fullness. | Page 33 lines 4-6. | Recorder, 16, may inform controller, 20, automatically when it reaches a certain level of fullness. |
| Column 8 lines 20-25. | The signal processor apparatus also has a controller device which includes programable random access memory controller **20**, read only memory **21** that may contain a unique digital code capable of identifying the signal processing apparatus uniquely, an automatic dialing device **24**, and a telephone unit, **22**. | Page 33 lines 7-12. | Signal processor, 26, has a controller device which includes programmable RAM controller, 20; ROM, 21, that may contain unique digital code information capable of identifying signal processor, 26, and the subscriber station of said processor, 26, uniquely; an automatic dialing device 24; and a telephone unit, 22. |
| Column 8 lines 25-27. | The controller, **20**, governs the operation of all operating elements of the apparatus. | Page 33 lines 18-20. | Controller, 20, has capacity for controlling the operation of all elements of the signal processor … |
| Column 8 lines 27-29. | The controller, **20**, inputs the local oscillator, **6**, a sequential pattern to select the various channels to be received by switch, **1**, and mixers, **2** and **3**. | Page 248 line 35 to page 249 line 5. | In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. |
| Column 8 lines 30-32. | This then allows the channels to be diverted to the detectors, receivers, and decoders in any predetermined pattern desired. | Page 248 line 35 to page 249 line 5.<br><br>Page 253 lines 22-35. | In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern.<br><br>Automatically oscillator, 6, causes switch, 1, to shift its contact lever from the first alternate contact to the second alternate contact to which wireless transmissions are inputted and causes mixer, 3, to select the frequency of channel 5 and input said frequency of interest, at a fixed frequency, to decoder, 30. Controller, 20, then transmits a particular |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | preprogrammed wireless-5 instruction to said control processor, 39J, that informs said processor, 39J, wireless channel 5 is inputted to decoder, 30.<br>Receiving said wireless-5 instruction causes control processor, 39J, to cause all appratus of decoder, 30, to comence receiving, detecting, and processing SPAM message information embedded in the inputted frequency of interest. |
| | | Page 265 line 30 to page 266 line 4. | Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40. Controller, 20, then transmits a particular preprogrammed radio-99.0 instruction to control processor, 44J, that informs said processor, 44J, 99.0 MHz is inputted to decoder, 40.<br>Receiving said radio-99.0 instruction causes control processor, 44J, to cause all apparatus of decoder, 40, to commence receiving, detecting, and processing SPAM message information embedded in the inputted frequency of interest. |
| Column 8 lines 32-35. | The controller, **20**, can instruct signal decoders, **30** and **40**, when, where, and how to look for signal words, which allows signal words to be received in any pattern or patterns. | Page 33 lines 18-20.<br><br>For example, page 290 line 11 to page 291 line 4. | Controller, 20, has capacity for controlling the operation of all elements of the signal processor …<br><br>… executing said instructions causes controller, 20, causes prepare to receive a particular enabling SPAM message at a particular time. Automatically, controller, 20, checks the time of the clock, 18, of signal processor, 200, periodically. At a particular commence-enabling time that is a predetermined interval prior to the aforementioned 8:30 PM time (when said originating studio commences transmitting the "Wall Street Week" program), controller, 20, causes all apparatus of the TV signal decoder, 30, to delete from memory all information of received SPAM information; transmits particular preprogrammed enable-next-program-on-CC13 information to the control processor, 39J, of said decoder, 30, and causes said control processor, 39J, to place one instance of said information at a particular controlled-function-invoking information location; causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; causes said control processor, 39J, to cause |

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| | | | digital detectors, 34, 37, and 38, to cease inputting detected information to controller, 39, and commence discarding said information (which said detectors, 34, 37, and 37, have capacity to do) and to cause particular apparatus of decoder, 30,--for example, line receiver, 33, and digital detector, 34--to commence receiving and inputting to controller, 39, SPAM information detected in the frequency inputted to decoder, 30; … |
| | | Page 13 lines 19-24. | They also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly. |
| Column 8 lines 35-37. | [Controller, 20 can instruct buffer/ comparator, **8**,] how to assemble signal words into signal units and join units together for further transfer and… | Page 33 lines 18-20. | Controller, 20, has capacity for controlling the operation of all elements of the signal processor … |
| | | Page 37 line 31 to page 38 line 3. | Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; … |
| | | Page 39 lines 16-21. | Controller, 20, has capacity to preprogram (or reprogram) all said decoder apparatus, 27, 28, 29, 30, and 40, and thereby controls the fashions of detecting, correcting, converting, modifying, identifying, transferring, and other functioning of said decoders. |
| Column 8 lines 38-39. | …[Controller, 20 can instruct buffer/comparator 8] how to determine which signals to pass to decrypter, **10**. | Page 33 lines 18-20. | Controller, 20, has capacity for controlling the operation of all elements of the signal processor … |
| | | For example, page 147 lines 29-31. | Then said decrypt-with-J instructions cause controller, 20, to activate the output capacity of buffer/comparator, 8, that outputs to decryptor, 10; … |
| | | For example, page 148 lines 4-16. | Controller, 20, is preprogrammed with … Using preprogrammed information and instructions as required, said decrypt-a-00-header-message instructions transfer the received binary information of said second message from buffer/comparator, 8, to decryptor, 10, in the same fashion |

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| | | | that the aforementioned transfer-a-00-header-message instructions controlled the transfer of the information of said message from controller, 39, to buffer/comparator, 8. |
| Column 8 lines 39-40. | [Controller, 20] can tell decrypter, **10**, when and how to change decryption patterns, fashions, and techniques. | Page 33 lines 18-20.<br><br>For example, page 147 lines 23-28.<br><br>For example, page 149 line 27 to page 150 line 6. | Controller, 20, has capacity for controlling the operation of all elements of the signal processor …<br><br>Among said preprogrammed instructions is key information of J, and said instructions cause controller, 20, automatically to select and transfer said key information to decryptor, 10.<br>Decryptor, 10, receives said key information and automatically commences using it as its key for decryption.<br><br>Decryptor, 10, commences … decrypting … Said decrypt-a-00-header-message instructions cause controller, 20, to cause decryptor, 10, to transfer the first H bits without decrypting or altering said bits in any fashion, to decrypt and transfer the next X bits, to transfer the next L bits without decrypting or altering said bits, to decrypt and transfer the next MMS-L bits, and finally, to transfer any bits remaining after the last of said MMS-L bits without decrypting or altering said bits. In this fashion, the cadence information in said message, which is not encrypted, is transferred by decryptor, 10, to controller, 12, without alteration. |
| Column 8 lines 40-44. | [Controller, 20] can tell processor or monitor, **12**, how to determine which signals to pass externally and when and where and how to determine which signals to pass to buffer/comparator, **14**. | Page 33 lines 18-20.<br><br>Page 149 lines 8-15.<br><br>For example, page 150 lines 29-35.<br><br>For example, page 152 | Controller, 20, has capacity for controlling the operation of all elements of the signal processor and ...<br><br>Then said … instructions cause controller, 20, to transmit to controller, 12, a particular transfer-decrypted-message instruction and particular decryption mark information of key J that identifies J as the decryption key.<br>Receiving said instruction and information causes controller, 12, *to execute particular preprogrammed transfer- and-meter instructions* …<br><br>Automatically, controller, 12, executes preprogrammed transfer-to-205-@12 instructions; activates the output port that outputs to SPAM- controller, 205C; then commences transferring information of said decrypted information of the second message *under control of said transfer-and-meter instructions* commencing with the first of said H bits and transferring information, …<br><br>… causes controller, 12, to cease transferring information, |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | line 19 to page 153 line 1. | under control of said transfer-and-meter instructions, to deactivate all output ports, and to commence *executing the meter instructions of said transfer-and-meter instructions.* Said meter instructions cause controller, 12, … to transfer to buffer/comparator, 14, particular header identification information that identifies controller, 12, as the source of said transfer the information recorded at said SPAM-meter memory then the information recorded at said decryption-mark- @12 register memory, which information is the decryption mark of key J. (Hereinafter, said meter information generated by the second combining synch command in example #2 is called the "2nd meter information (#2).") |
| Column 8 lines 44-46. | [Controller, 20] can tell buffer/comparator, **14**, what and how to count, what and how to mark signals, and what received signals to discard. | Page 32 lines 20-21.<br><br>Page 32 lines 10-13.<br><br>For example, page 223 lines 22-33.<br><br>For example, page 224 lines 12-16. | Buffer/comparator, 14, operates under control of controller, 20, …<br><br>… buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information and for incorporating count information into signal records.<br><br>Said match causes controller, 20, to execute said instructions. Under control of said first set, controller, 20, initiates assembly of said first meter record by selecting and placing at particular record locations at buffer/comparator, 14, particular record format information, then program unit information from a particular meter-monitor field of said 1st meter & monitor information (#4), origin of transmission information from a second field, date and time of transmission information from a third field, decryption key information from the decryption mark of said 1st meter & monitor information (#4), and finally date and time of processing information from clock, 18.<br><br>When said second set is completed, controller, 20, executes said third specified set which causes controller, 20, to cause buffer/comparator, 14, to transfer said second meter record to recorder, 16, in a predetermined fashion then discard all information of said record from its memory and to … |
| Column 8 lines 46-50. | The controller, **20**, also inputs the digital recorder, **16**, to direct it to output the information from the memory of the recorder, **16**, to telephone connection, **22**, and thence to the collection site at the remote geographical location. | Page 33 lines 18-20.<br><br>Page 273 lines 4-6. | Controller, 20, has capacity for controlling the operation of all elements of the signal processor …<br><br>The first stage of said sequence involves transferring audit |

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| | | | information to a particular first host computer at a first remote station. |
| | | Page 273 lines 21-25. | … causes controller, 20, to cause recorder, 16, to transmit all recorded meter audit records and particular other audit information to telephone connection, 22, which causes said connection, 22, to transmit said records and information to said first computer. |
| Column 8 lines 50-55. | The controller, **20**, also controls the automatic telephone dialing device, **24**, to allow the apparatus to automatically output its own information in accordance with a predetermined sequence and to change telephone numbers dialed as required. | Page 273 lines 6-8.<br><br>Page 274 lines 11-13. | Controller, 20, transfers the telephone number, 1-800-AUDITOR, to auto dialer, 24, and causes said dialer, 24, to dial said number.<br><br>Controller, 20, transfers the telephone number, 1-800-CHARGES, to auto dialer, 24, and causes the dialing of said number. |
| Column 8 lines 56-58. | To facilitate the operation of the device, the controller, **20**, can receive information from all operating elements of the apparatus. | Page 33 lines 18-21. | Controller, 20, has capacity for … all elements of the signal processor and can receive operating information from said elements. |
| Column 8 lines 58-60. | Control signals can be passed to the apparatus by means of the programing transmissions input at switch, **1**, and mixer, **2**. | Page 290 lines 26-31.<br><br>Page 291 lines 21-24.<br><br>Page 59 lines 29-31. | … causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; …<br><br>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, …<br><br>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. |
| Column 8 lines 60-62. | An example of such a control signal is an instruction for the apparatus to contact a remote telephone unit. | Page 402 lines 22-26.<br><br>Page 403 lines 7-12. | … causes said controller, 20, again to cause said switch, 1, and said mixer, 3, to input the transmission of said master channel to said decoder, 30, and to cause said decoder, 30, to commence processing to detect a SPAM end of file signal.<br><br>Said message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30.<br>Receiving said message causes said controller, 39, to transmit said Read-Meters-of-Selected-Stations SPAM message to the controller, 20, of the signal processor, 200, of |

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| | | | said station. |
| | | Page 405 lines 20-29. | Executing said ones causes controller, 20, to transmit the current reading information of utilities meter, 262, to a remote metering station computer and cause said computer to process said information. Automatically, controller, 20, … activates telephone connection, 22; inputs a particular telephone number … |
| Column 8 lines 62-65. | The processor unit, **12**, has the capacity to identify instruction signals for controller, **20**, and pass them to controller, **20**, over control information lines. | Page 59 lines 29-31. | A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. |
| | | For example, page 531 lines 17-22. | Said contained messages that are addressed to apparatus such as decoder, 30, PRAM controller, 20, and switch controller, 20A, that exist within the equipment case of a signal processor, 200, are inputted to said apparatus from controller, 12, via controller, 20, rather than via matrix switch, 259 … |
| Column 8 lines 65-68. | Buffer/comparator, **14**, has the capacity to pass received time signals to the controller, **20**, in a predetermined fashion set by and changeable by controller, **20**. | Page 32 lines 24-32. | (In circumstances where information collecting and processing functions are extensive--for example, when a given buffer/comparator, 14, must collect monitor information at a subscriber station with apparatus and/or communications flows that are extensive and complex--buffer/comparator, 14, may operate under control of a dedicated, so-called "on-board" controller, 14A, at buffer/comparator, 14, which is preprogrammed with appropriate control instructions and is controlled by controller, 20, … |
| | | For example, page 179 lines 24-32. | Automatically, under control of said process-monitor-info instructions, onboard controller, transmits to controller, 20, a particular preprogrammed instruct-to-record instruction that causes controller, 20, to cause onboard controller, 14A, to transmit the monitor record of said prior programming to recorder, 16, in a predetermined fashion and that causes controller, 20, to cause recorder, 16, to record said monitor record information in a predetermined fashion. |
| Column 8 line 68 to column 9 line 4. | Buffer/comparator, **8**, and monitor or processor, **12**, each have the capacity to inform controller, **20**, when signals that they are instructed to look for in predetermined fashions, set by and changeable by controller, **20**, fail to appear. | Page 33 lines 18-21. | … is described more fully below. Controller, 20, has capacity for controlling the operation of all elements of the signal processor and can receive operating information from said elements. Controller, 20, has capacity to turn off any … |
| | | For example, page 300 line 32 to page 301 line | … program instructions, to cause the control processor, 39J, of decoder, 30, to transfer to controller, 20, selected |

| | | | |
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| | | 1. | information of said check sequence of binary information and compare said selected information to selected information of said 1st-stage-enable-WSW-program instructions … |
| | | with respect to Page 301 lines 6-11. | At each station where a match fails to occur—which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with—not resulting in a match causes the controller, 20, … |

**IX. COLUMN 9**

| | | | |
|---|---|---|---|
| Column 9 lines 4-8. | Oscillator, **6**, the controller, **20**, and buffer/comparator, **8**, can interact in such a fashion that buffer, **8**, can identify the channel that any given signal is received on and mark the signal for subsequent identification of the channel. | Page 258 lines 17-25. | … said wireless channel 9 and causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. Automatically, oscillator, 6, causes mixer, 3, to select the frequency of channel 13 and input said frequency to decoder,<br>30. Controller, 20, then transmits a particular preprogrammed wireless-13 instruction to said control processor, 39J, that informs said processor, 39J, wireless channel 13 is inputted to decoder, 30. |
| | | Page 260 lines 5-13. | … commence transferring information from control processor, 39J, to buffer/comparator, 8, then to transmit a message that consists of binary information of a "00" header then the execution segment information of the pseudo command then a meter-monitor segment containing said monitor information in RAM (including the associated channel mark and the format information of said information) then any padding bits required to end said message. (Hereinafter, said message is called the "3rd-old-program-message (#5)".) … |
| | | Page 270 lines 5-12. | Receiving any given old programming message causes onboard controller, 14A, to … determine that the channel mark … in said old programming message matches the channel mark … of a selected monitor information record previously initiated … |
| Column 9 lines 8-10. | Digital recorder, **16**, can tell the controller, **20**, when it reaches | Page 33 lines 4-6. | Recorder, 16, may inform controller, 20, automatically |

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| | predetermined levels of fullness… | | when it reaches a certain level of fullness. |
| Column 9 lines 10-12. | to permit the controller, **20**, to instruct auto dialer, **24**, to contact an appropriate remote site allowing the recorder, **16**, to output its data | Page 272 line 26 to page 273 line 8. | In each example, … recorder, 16, measures the quantity of its recording capacity that holds signal records, in a predetermined fashion, and determines that said quantity is equal to or greater than said particular fullness information. Said determining causes recorder, 16, to transfer a particular instruct-to- call instruction to controller, 20, that causes controller, 20, to activate telephone connection, 22, and proceed with a particular preprogrammed telephone signal record transfer sequence that is fully automatic.<br>The first stage of said sequence involves transferring audit information to a particular first host computer at a first remote station. Controller, 20, transfers the telephone number, 1-800-AUDITOR, to auto dialer, 24, and causes said dialer, 24, to dial said number. |
| Column 9 lines 13-16. | …making memory available. In normal operation, controller, **20**, may be instructed by the remote site to erase recorder, **16**, which instruction controller, **20**, effects through communication with recorder, **16**;… | Page 275 line 33 to page 276 line 2. | Automatically said second computer responds with a particular transmission complete signal that causes controller, 20, to terminate said telephone call then to cause recorder, 16, to erase from memory all said meter charge information. |
| Column 9 lines 16-19. | …however, controller may ignore such an instruction in a predetermined fashion, if the information in recorder, **16**, is to be conveyed to more than one remote sites. | Page 273 line 30 to page 274 line 10. | Automatically said first computer determines, in a predetermined fashion, that the audit information has been received correctly and completely, and said determining causes said first computer automatically to transmit a particular transmission complete signal to controller, 20. Receiving said complete signal causes controller, 20, to cause telephone connection, 22, to terminate said telephone call. Then controller, 20, transfers information to recorder, 16, that causes recorder, 16, to erase from memory all said record and other information that is *not also meter charge information or monitor information.* Having completed the first stage, controller, 20, then commences automatically the second stage of said sequence which involves *transferring meter charge information* to a particular second host computer at a second remote station. |
| Column 9 lines 20-21. | The controller, **20**, can shut off any element or elements of the apparatus in whole or in part. | Page 33 lines 21-23. | Controller, 20, has capacity to turn off any element or elements of controlled subscriber station apparatus, in whole or in part, … |
| Column 9 lines 21-22. | It is interactive with external sources via telephone connection, **22**,… | Page 273 lines 6-19. | Controller, 20, transfers the telephone number, 1-800-AUDITOR, to auto dialer, 24, and causes said dialer, 24, to dial said number. Said first computer |

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| | | | answers said telephone call, and in a fashion well known in the art, controller, 20, and said first computer automatically establish telephone communications. Automatically, controller, 20, causes telephone connection, 22, to transfer particular identifying information that includes the unique digital identifying code of ROM, 21, to said first computer followed by a particular instruct-to-receive signal. Said instruct-to-receive signal causes said first computer automatically to prepare to receive audit records then to transfer a particular start signal via connection, 22, to controller, 20. |
| Column 9 line 23. | …and can be reprogramed from such remote sources. | Page 537 lines 6-17.<br><br>with respect to page 555 line 24 to page 556 line 14. | At 3:10 AM, GMT, *said European master network station* transmits particular SPAM message information, embedded in the information of said master transmission, including a SPAM end of file signal and the aforementioned sequence of SPAM messages that contain operating system instructions. In so doing, said European master network station inputs operating system instructions to all SPAM apparatus and receiver station computers, 73, and microcomputers, 205, thereby causing said apparatus and computers, 73 and 205, as described above in "PREPROGRAMMING RECEIVER STATION OPERATING SYSTEMS," to commence operating under control of the instructions of said operating systems.<br><br>…particular information of said TELEPHON.EXE module that causes … signal processor, 200, to transmit the information … via telephone network in the fashion of example #10, to a computer at a particular remote data collection station.<br>Over the course of a particular time such as two days, computers at remote data collection stations receive data automatically from each farmer of said nations which data indicates the specific quantity of each crop that each farmer expects to harvest during the 2027 growing season. Automatically, the received data is aggregated, in a fashion well known in the art, at the computer of said *European master network* origination and control *station* …<br>Then, at 3:59 PM, on Thursday, February 18, 2027, the cycle of generating and communicating information of farmers is repeated … |
| Column 9 line 26. | **Operation of Signal Processor Apparatus** | *See generally* Page 86 line 31 to page 278 line | **Operating Signal Processor Systems … Introduction** |

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| | | 20 | |
| Column 9 lines 27-31. | The simplest forms of signal processor apparatus are each of the five paths described in Figures **2A**, **2B**, and **2C**. Each path, by itself, is capable of identifying signals in the portions of programing transmissions that each receives. | Page 34 lines 18-20.<br><br>Page 17 lines 11-16.<br><br>Page 15 lines 18-22. | Signal decoder apparatus such as decoder, 203, in Fig. 1 and decoders, 30 and 40, in Fig. 2 are basic in the unified system of this invention.<br><br>Fig. 2A is a block diagram of a TV signal decoder apparatus.<br>Fig. 2B is a block diagram of a radio signal decoder apparatus.<br>Fig. 2C is a block diagram of an other signal decoder apparatus.<br><br>… transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions … |
| Column 9 lines 31-33. | A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission. | Page 22 lines 1-6.<br><br>Page 14 line 35 to page 15 line 2.<br><br>Page 36 lines 2-3.<br><br>Page 36 lines 19-20. | … a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.<br><br>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.<br><br>… processes signal information embedded in an inputted radio frequency.<br><br>… processes signal information embedded in a frequency other than a television or radio frequency. |
| Column 9 lines 33-40. | Each path is capable of receiving a transmission or a portion of a transmission and detecting digital signals in that portion and transmitting said signals to in-line equipment for further processing. Each of the paths described in FIGS. **2A**, **2B**, and **2C** can identify and process only signals embedded in the particular transmission channel inputted to said paths. | Figs. 2A-2C.<br>Page 35 lines 1-6.<br><br>Page 35 lines 16-18. | *See figures.*<br>The apparatus of these separate paths are designed to act on the particular frequency ranges in which embedded signal information may be found. The first path, designated A, detects signal information embedded in the video information portion of said television channel signal.<br><br>The second path, designated B, detects signal information |

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| | | | embedded in the audio information portion of said television channel signal. |
| | | Page 35 lines 27-30. | The third path, designated C, inputs the separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal... |
| | | Page 36 lines 1-3. | Fig. 2B shows a radio signal decoder that detects and processes signal information embedded in an inputted radio frequency. |
| | | Page 36 lines 18-20. | Fig. 2C shows a signal decoder that detects and processes signal information embedded in a frequency other than a television or radio frequency. |
| | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| Column 9 lines 41-44. | The signal processor apparatus described in FIG. **1** can identify such signals in multiple and variable locations in multiple and variable modes, channels, and transmissions. | Page 248 line 13 to page 271 lines 30.<br><br>Page 457 line 12 to page 463 line 28. | *See generally.*<br><br>*See generally.* |
| Column 9 lines 44-47. | Such signals may be transmitted over and over continuously in such transmissions or they may be transmitted over and over only for predetermined time intervals. | Page 14 lines 3-6. | In programming transmissions, given signals may run and repeat, for periods of time, continuously or at regular intervals. Or they may run only occasionally or only once. They may appear in various and varying locations. |
| Column 9 lines 47-52. | The controller, **20**, is programed to sequence the local oscillator, **6**, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency. | Page 248 line 17 to page 249 line 5. | Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies ... In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. |
| | | Page 257 line 24 to page 258 line 19. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 …<br>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. |
| Column 9 lines 53-55. | The local oscillator, being thus sequenced, will allow each signal decoder, **30** and **40**, to receive a particular frequency at a particular time interval. | Page 257 line 24 to page 258 line 19.<br><br>Page 265 line 27 to Page 266 line 21. | Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 …<br>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.<br><br>Said radio-detection-complete information causes … controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 …<br>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, … causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. |
| Column 9 lines 55-57. | This will define the timing of the composite outputs of the digital detectors, **34**, **37**, and **38** in FIG. **2A**, and **43** in FIG. **2B**. | Page 250 lines 13-17. | Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | Page 251 lines 8-11. | Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; … |
| | | Page 263 lines 19-24. | … said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. |
| | | Page 37 lines 26-28. | In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. |
| Column 9 lines 57-63. | The same controller will control buffer/comparator, **8**, to discard received duplicate and partial signals, to mark signals with correct channel identifiers, to transfer signals to decrypter, **10**, and processor or monitor, **12**, as required, and to perform such other functions as buffer/ comparator, **8**, performs. | Page 146 line 31 to page 147 line 3. | Said failures to match cause the controllers, 20, of said stations automatically … to cause said buffer/comparators, 8, to discard all received information of said second message; and to cause … said buffer/comparators, 8, to commence processing in the conventional fashion.) |
| | | Page 258 lines 17-25. | … causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. Automatically, oscillator, 6, causes mixer, 3, to select the frequency of channel 13 and input said frequency to decoder, 30. Controller, 20, then transmits a particular preprogrammed wireless-13 instruction to said control processor, 39J, that informs said processor, 39J, wireless channel 13 is inputted to decoder, 30. |
| | | Page 260 lines 5-13. | … commence transferring information from control processor, 39J, to buffer/comparator, 8, then to transmit a message that consists of binary information of a "00" header then the execution segment information of the pseudo command then a meter-monitor segment containing said monitor information in RAM (including the associated channel mark and the format information of said information) then any padding bits required to end said message. (Hereinafter, said message is called the "3rd-old-program-message (#5)".) |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | Page 147 lines 29-31.<br><br>Page 149 lines 17-20.<br><br>Page 149 lines 27-29. | Then said decrypt-with-J instructions cause controller, 20, to activate the output capacity of buffer/comparator, 8, that outputs to decryptor, 10;<br><br>Next said decrypt-a-00-header-message instructions cause controller, 20, to cause buffer/comparator, 8, to transfer to decryptor, 10, a quantity of signal words of said binary information of the second message …<br><br>Decryptor, 10, commences receiving said information, decrypting it using said key J information and transferring it to controller, 12, … |
| Column 9 lines 63-65. | The controller, **20**, instructs decrypter, **10**, what to decrypt and in what fashion. | Page 147 lines 23-28.<br><br>Page 149 line 27 to page 150 line 6. | Among said preprogrammed instructions is key information of J, and said instructions cause controller, 20, automatically to select and transfer said key information to decryptor, 10.<br>Decryptor, 10, receives said key information and automatically commences using it as its key for decryption.<br><br>Decryptor, 10, commences receiving said information, decrypting it using said key J information and transferring it to controller, 12, as quickly as controller, 12, accepts it. The process of decryption proceeds in a particular fashion. Said decrypt-a-00-header-message instructions cause controller, 20, to cause decryptor, 10, to transfer the first H bits without decrypting or altering said bits in any fashion, to decrypt and transfer the next X bits, to transfer the next L bits without decrypting or altering said bits, to decrypt and transfer the next MMS-L bits, and finally, to transfer any bits remaining after the last of said MMS-L bits without decrypting or altering said bits. In this fashion, the cadence information in said message, which is not encrypted, is transferred by decryptor, 10, to controller, 12, without alteration. |
| Column 9 lines 65-68. | [Controller, 20] instructs processor or monitor, **12**, how to identify what signals to pass externally and where to pass them and what signals to transfer to buffer/comparator, **14**. | Page 149 lines 8-16. | Then said decrypt-a-00-header-message instructions cause controller, 20, to transmit to controller, 12, a particular *transfer-decrypted-message instruction* and particular decryption mark information of key J that identifies J as the decryption key.<br>Receiving said instruction and information causes |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | | | controller, 12, to execute particular preprogrammed *transfer- and-meter instructions* then record said mark of key J at particular decryption-mark-@12 register memory. |
| | | Page 150 lines 7-9. | Under control *of said transfer-and-meter instructions,* controller, 12, commences receiving decrypted information of the second message from decryptor, 10. |
| | | Page 150 lines 16-21. | Automatically controller, 12, processes said information of the second message of example #2 as a SPAM command. Receiving the header and execution segment causes controller, 12, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message accordingly. |
| | | Page 152 line 18 to page 153 line 1. | Receiving said complete-transfer-phase instruction causes<br>controller, 12, to cease transferring information, under control *of said transfer-and-meter instructions,* to deactivate all output ports, and to commence executing the meter instructions of said transfer-and-meter instructions. Said meter instructions cause controller, 12, to … transfer to buffer/comparator, 14, particular header identification information that identifies controller, 12, as the source of said transfer the information recorded at said SPAM-meter memory then the information recorded at said decryption-mark- @12 register memory, which information is the decryption mark of key J. (Hereinafter, said meter information generated by the second combining synch command in example #2 is called the "2nd meter information (#2).") |
| Column 9 line 68 to column 10 line 2. | The controller, **20**, instructs buffer/comparator, **14**, what signals to discard and how to mark signals and assemble signal strings. | Page 32 lines 20-21. | Buffer/comparator, 14, operates under control of controller, 20, … |
| | | Page 223 lines 22-33. | Said match causes controller, 20, to execute said instructions. Under control of said first set, controller, 20, initiates assembly of said first meter record by selecting and placing at particular record locations at buffer/comparator, 14, particular record format information, then program unit information from a particular meter-monitor field of said 1st meter & monitor information (#4), origin of transmission information from a second field, date and time of transmission information |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | | | from a third field, decryption key information from the decryption mark of said 1st meter & monitor information (#4), and finally date and time of processing information from clock, 18. |
| | | Page 224 lines 12-18. | When said second set is completed, controller, 20, executes said third specified set which causes controller, 20, to cause buffer/comparator, 14, to transfer said second meter record to recorder, 16, in a predetermined fashion then discard all information of said record from its memory and to cause recorder, 16, to process and record said transferred meter record in its preprogrammed fashion. |

**X. COLUMN 10**

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| Column 10 lines 2-4. | The controller activates digital recorder, **16**, thus defining the location in memory of each of the signals and signal strings. | Page 224 lines 12-18. | When said second set is completed, controller, 20, executes said third specified set which causes controller, 20, to cause buffer/comparator, 14, to transfer said second meter record to recorder, 16, … and to cause recorder, 16, to process and record said transferred meter record in its preprogrammed fashion. |
| Column 10 lines 4-8. | The controller, **20**, also controls the automatic telephone dialing device, **24**, which can automatically output the digital information on the digital recorder, **12**, to a remote site through a telephone connection, **22**. | Page 273 lines 6-11. | Controller, 20, transfers the telephone number, 1-800-AUDITOR, to auto dialer, 24, and causes said dialer, 24, to dial said number. Said first computer answers said telephone call, and in a fashion well known in the art, controller, 20, and said first computer automatically establish telephone communications. |
| | | Page 273 lines 21-25. | …causes controller, 20, to cause recorder, 16, to transmit all recorded meter audit records and particular other audit information to telephone connection, 22, which causes said connection, 22, to transmit said records and information to said first computer. |
| Column 10 lines 8-10. | The controller, **20**, can also set the proper time into clock, **18**, should this step be necessary. | Page 290 lines 14-16. | Automatically, controller, 20, checks the time of the clock, 18, of signal processor, 200, periodically. At a particular commence-enabling time that is a predetermined interval…. |
| | | Page 33 lines 18-21. | Controller, 20, has capacity for controlling the operation of all elements of the signal processor…. |
| Column 10 lines 10-13. | The controller, **20**, operates in a predetermined fashion that can be altered by external means communicating by means of the telephone connection, **22**. | Page 273 lines 16-25. | Said instruct-to-receive signal causes said first computer automatically to prepare to receive audit records then to transfer a particular start signal via connection, 22, to |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | controller, 20. Receiving said start signal, sent automatically in response to controller, 20's, instruct-to-receive signal, causes controller, 20, to cause recorder, 16, to transmit all recorded meter audit records and particular other audit information to telephone connection, 22, which causes said connection, 22, to transmit said records and information to said first computer. |
| Column 10 line 14. | **Method of Use at an Intermediate Transmission Point** | *See generally* page 324 line 7 to page 390 line 11. | **Automating Intermediate Transmission Stations** |
| Column 10 lines 15-20. | The signal processing apparatus outlined in FIGS. **1**, **A**, **2B**, and **2C**, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programing or a cable system cablecasting many channels. | Page 324 lines 8-17. | The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously. |
| Column 10 lines 20-23. | They can be used in a facility transmitting television programing, radio programing, and making other electronic transmissions. | Page 324 lines 12-14. | …stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming…. |
| Column 10 lines 24-28. | FIGS. **3A**, **3B** and **3C** illustrates one instance of such use. Figure **3** illustrates the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programing. | Page 324 lines 18-21. | Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming. |
| Column 10 lines 28-30. | The means for and method of transmission of programing described here is well known in the art. | Page 324 lines 21-23. | The means and methods for transmitting conventional programming are well known in the art. |
| Column 10 lines 30-39. | The facility receives programing from many sources. Transmissions may be received from satellites by satellite antenna, **50**, low noise amplifiers, **51** and **52**, and TV receivers, **53**, **54**, **55**, and **56**. Microwave transmissions can be received by microwave antenna, **57**, and television video and audio receivers, **58** and **59**. Conventional TV broadcast transmissions can be received by antenna, **60**, and TV demodulator, **61**. Other electronic programing input means, **62**, can receive programing transmissions. | Page 324 lines 23-31. | The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. |
| Column 10 lines 40-41. | All of these received transmissions feed into the facility by hard-wire and… | Page 324 lines 31-33. | Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire…. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| Column 10 lines 41-42. | …connect, by means of conventional switches (here matrix switch, **75**), to… | Page 324 line 34. | …a conventional matrix switch, 75, well known in the art,…. |
| Column 10 lines 42-43. | …one or more video recorder/players, **76** and **78**,… | Page 324 line 35. | …one or more recorder/players, 76 and 78,…. |
| Column 10 lines 43-47. | …and/or to equipment that outputs them over various channels to the cable system's field distribution system, **93**, which equipment includes here cable channel modulators, **83**, **87**, and **91**, and channel combining and multiplexing system, **92**. | Page 325 lines 1-4. | …apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92. |
| Column 10 lines 48-49. | Programing can also be manually delivered to the facility on prerecorded video tapes and videodiscs. | Page 325 lines 5-6. | Programming can also be manually delivered to said station on prerecorded videotapes and videodiscs. |
| Column 10 lines 49-52. | When played on video recorder and players, **76** and **78**, or other similar equipment well known in the art, such prerecorded programing can be transmitted to the field. | Page 325 lines 6-9. | When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93. |
| Column 10 lines 53-57. | In the present art, the identification of incoming programing, however received; the operation of video player and recorder equipment, **76** and **78**; and the maintenance of records of programing transmissions are all largely manual operations. | Page 325 lines 10-14. | In the prior art, the identification of incoming programming, however received; the operation of video player and recorder equipment, 76 and 78; and the maintenance of records of programming transmissions are all largely manual operations. |
| Column 10 lines 58-60. | FIGS. **3A**, **3B** and **3C** shows the introduction of signal processing apparatus and methods to automate these and other operations. | Page 325 lines 15-16. | Fig. 6 shows the introduction of signal processing apparatus and methods to automate these and other operations. |
| Column 10 lines 61-63. | Incoming programing transmissions are received at the relevant receiver points, antennas, **50**, **57**, and **60**, and other means, **62**. | Page 324 lines 23-31. | The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. |
| Column 10 lines 63-64 | They are fed along the conventional paths described above. | Page 324 lines 31-33. | Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire…. |
| Column 10 lines 64-66. | At distribution amplifiers, **63** through **70**, each incoming feed is split into two paths. | Page 325 lines 17-21. | In line between each of the aforementioned receiver/ demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, and matrix switch, 75, is a dedicated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, that splits each incoming feed into two paths. |
| Column 10 line 66 to Column 11 line 1. | One is the conventional path whereby programing has flowed and continues to flow to recording devices, **76** and **78**, and/or to flow to field distribution system, **93**. | Page 325 lines 21-24. | One path is the conventional path whereby programming flows from each given receiver/demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, to matrix switch, 75. |

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| | | Page 324 line 31 to page 325 line 4. | Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, and/or to apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92. |

**XI. COLUMN 11**

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| Column 11 lines 1-3. | The other path flows from each distribution amplifier, **63** through **70**, individually to signal processor, **71**. | Page 325 lines 24-27. | The other path inputs the transmission of said given receiver/demodulator/ input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, individually to signal processor system, 71. |
| Column 11 lines 3-5. | Signal processor, **71**, has means, described above, to identify and separate the instruction and information signals from their associated programing and… | Page 325 line 34 to page 326 line 7. | At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;…. |
| Column 11 lines 6-7. | …pass them, along with information identifying the channel source of each signal, externally to code reader, **72**. | Page 326 lines 7-11. | …adds, … source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, with said source mark information, to code reader, 72. |
| Column 11 lines 8-10. | Signal processor, **71**, also has means to record said signals and transfer them to external communications network, **97**. | Page 326 lines 11-15. | Signal processor system, 71, also has signal processor means to control signal processor system, 71, to record meter-monitor information of said message information, and to transfer recorded information to external communications network, 97. |
| Column 11 lines 12-14. | Code reader, **72**, passes the received signals, with channel identifiers, to cable program controller and computer, **73**. | Page 326 lines 16-18. | Code reader, 72, buffers and passes the received SPAM message information, with source mark information, to cable program controller and computer, 73. |
| Column 11 lines 15-17. | Cable program controller and computer, **73**, is the central automatic control unit for the transmission facility. | Page 326 lines 19-20. | Cable program controller and computer, 73, is the central automatic control unit for the transmission station. |
| Column 11 lines 18-21. | The controller/computer, **73**, has means for receiving input information from local input, **74**, and from remote sources via telephone or other data transfer network, **98**. | Page 326 lines 27-30. | Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| Column 11 lines 21-22. | Such input information might include the cable television system's complete programing schedule,... | Page 326 lines 30-31. | Such input information can include the complete programming schedule of the station of Fig. 6,.... |
| Column 11 lines 22-24. | ...with each discrete unit of programing identified with a unique program code... | Page 326 lines 31-33. | ...with each discrete unit of programming identified by its own "program unit identification code" information. |
| Column 11 lines 25-28. | Such input information might also indicate when and where the cable head end facility should expect to receive the programing. | Page 326 lines 33-35. | Such input information can indicate when and how the station should expect to receive each program unit,.... |
| Column 11 lines 28-31. | Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, **93**. | Page 326 line 33 to page 327 line 2. | Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit,.... |
| Column 11 lines 32-37. | By means of the signals, with channel indicators, received from code reader, **72**, controller/computer, **73**, can determine what specific programing and programing unit has been received by each receiver, **53** through **62**, and is passing in line on each individual wire to matrix switch, **75**. | Page 328 lines 2-7. | By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. |
| Column 11 lines 38-39. | By comparing identification signals on the incoming programing... | Page 327 line 35 to page 328 line 13.<br><br>Page 84 lines 26-28.<br><br>Page 28 lines 26-27.<br><br>Page 49 lines 26-27. | Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.<br>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.<br><br>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....<br><br>...monitor information that identifies what programming is available,....<br><br>Meter-monitor segments contain meter information and/or monitor information. |
| Column 11 line 39. | with the programing schedule... | Page 328 lines 9-10. | ...with information of the programming schedule,.... |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| Column 11 lines 39-41. | …received earlier from local input, **74**, and/or from a remote site via netwcrk, **98**,… | Page 328 line 10.<br><br>Page 326 lines 28-30. | …received earlier from input, 74, and/or network, 98, computer, 73,….<br><br>…receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98. |
| Column 11 lines 41-43. | …controller/computer, **73**, can determine when and on what channel or channels the head end facility should transmit the programing. | Page 328 lines 11-13. | …computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming … |
| Column 11 lines 44-46. | Controller/computer, **73**, has means for communicating control information with matrix switch, **75**, and video recorder/players, **76** and **78**. | Page 328 lines 14-16. | Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, …. |
| Column 11 lines 46-50. | If incoming programing is meant for immediate transmission, controller/computer, **73**, instructs matrix switch, **75**, to configure its switches so as to transfer incoming programing to the proper output channel. | Page 328 lines 18-22. | Determining that particular incoming programming is scheduled for immediate retransmission can cause computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer said incoming programming to a scheduled output channel. |
| Column 11 lines 50-54. | For example, if controller/computer, **73**, determines that programing incoming via receiver, **53**, should be transmitted immediately to the field distribution system, **93**, via cable channel modulator, **87**, … | Page 328 lines 22-31. | For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. … Receiving said message causes computer, 73, to determine … that said "code" information matches … schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. |
| Column 11 lines 54-57. | …controller/computer, **73**, instructs matrix switch, **75**, to configure its switches so as to transfer programing transmissions inputted from TV receiver, **53**, to the output that leads to modulator, **87**. | Page 328 line 31 to page 329 line 1. | In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87. |
| Column 11 lines 57-60. | Similarly, if controller/computer, **73**, determines that incoming programing should be recorded for delayed transmission,… | Page 329 line 2-20. | Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73, to determine, … that said "code" information matches … schedule information of programming that is scheduled to be … transmitted to the field system, 93, at a later time. So determining causes computer, 73, … to select a video recorder/player, 76 or 78; … and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | television receiver, 58, to the output that leads to said selected recorder, 76 or 78. |
| Column 11 lines 60-61. | … controller/ computer, **73**, selects a video recorder/player, **76** or **78**, … | Page 329 lines 13-15. | So determining causes computer, 73, … to select a video recorder/player, 76 or 78; …. |
| Column 11 lines 61-64. | … in a predetermined fashion, to record the incoming programing, instructs matrix switch, **75**, to transfer the programing to the designated recorder/player, **76** or **78**, … | Page 329 lines 13-20. | … in its preprogrammed fashion, … to … record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. |
| Column 11 lines 64-65. | … and instructs the recorder/player, **76** or **78**, to turn on and record the programing. | Page 329 line 15-16. | … to cause said selected recorder, 76 or 78, to turn on and record programming, … |
| Column 11 lines 66-67. | Recorder/players, **76** and **78**, can communicate programing with each other through matrix switch, **75**. | Page 332 lines 24-30.<br><br>Page 333 lines 15-21. | … causes computer, 73, … to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record … unit D.<br><br>Computer, 73, causes … switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. … |
| Column 11 line 67 to Column 12 line 1. | If controller/ computer, **73**, determines at any time that it is necessary … | Page 331 lines 17-33. | Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, … |

**XII. COLUMN 12**

| | | | |
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| Column 12 lines 1-3. | … to reorganize the order in which programing units are stored on either recorder/player or on both, … | Page 331 lines 16-25. | Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. |
| | | Page 334 lines 1-6. | In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y. |
| For column 12 lines 3-8 see the support provided above for column 11 line 67 to column 12 line 8. | If controller/ computer, **73**, determines at any time that it is necessary … | For example, page 331 lines 17-33. | Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, … |
| | | For example, page 332 lines 23-31. | Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. … |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | For example, page 333 lines 15-21. | Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. … |
| | | For example, page 334 lines 1-6. | In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y. |
| Column 12 lines 8-12. | Were this head end facility equiped with automatic operating equipment well known in television studios, controller/computer, 73, could pass appropriate operating instructions to such equipment. | For example, page 365 line 22 to page 366 line 4. | Executing the information of said intermediate generation set causes computer, 73, also to generate a … video image… |
| | | For example, page 349 lines 14-20. | …and to organize the locations of the recorded program units, D, Q, W, and Y, to play according to the schedule inputted by said distribution station in the fashion described above (in the paragraph of the section, "AUTOMATING INTERMEDIATE TRANSMISSION STATIONS," that begins, "Computer, 73, has capacity for automatically organizing the locations of units…. |
| Column 12 lines 13-16. | Controller/computer, 73, monitors the operation of the head end facility by means of TV signal decoders, 77, 79, 80, 84, and 88, each of which are shown in detail in Fig. 2A. | Page 327 lines 13-15. | Computer, 73, monitors the operation of the head end station by means of TV signal decoders, 77, 79, 80, 84, and 88, each of which are shown in detail in Fig. 2A. |
| Column 12 lines 16-20. | Controller/computer, 73, has means to communicate control information with each decoder, 77, 79, 80, 84, and 88, to tell each how to operate and how and where to look for signals and to communicate other information. | Page 327 lines 15-18. | Computer, 73, has means to communicate control information with each decoder, 77, 79, 80, 84, and 88, to instruct each how to operate and how and where to search for SPAM information. |
| Column 12 lines 20-23. | (This particular embodiment could be expanded to include a decrypter, such as decrypter 10 in Fig. 1, in signals-only line between each decoder, 77, 79, 80, 84, and 88, and controller/computer, 73.) | Page 327 lines 13-15. | Computer, 73, monitors the operation of the head end station by means of TV signal decoders, 77, 79, 80, 84, and 88, each of which are shown in detail in Fig. 2A. |
| | | Page 36 lines 32-33. | Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities. |
| | | Page 156 line 33. | Fig. 3A shows one such preferred controller, 39. |
| | | Page 161 lines 34-35. | As Fig. 3A shows, the preferred embodiment of controller, |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | 39, also has a decryptor, 39K. |
| Column 12 lines 24-26. | Decoders, 80, 84, and 88, inform controller/computer, 73, what programing is passing on each cable channel and what signals the programing contains. | Page 327 lines 24-31. | Computer, 73, monitors outgoing programming by means of decoders, 80, 84, and 88. By decoders, 80, 84, and 88, to select and transfer SPAM meter-monitor information and by comparing said information to information of its contained schedule records, computer, 73, can determine whether scheduled programming is being transmitted properly to field distribution system, 93, on each cable channel of the station of Fig. 6. |
| Column 12 lines 26-29. | Decoders, 77 and 79, inform controller/computer, 73, what specific programing is loaded on recorder/players, 76 and 78 respectively, and what signals it contains. | Page 330 lines 5-15. | Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, … Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include … "program unit identification code" … |
| Column 12 lines 29-34. | (Among other signals, a program unit could contain signals that would inform controller/computer, 73, of the distance to the beginning and end of the program unit which signals would facilitate operation of recorder/ players such as 76 and 78.) | Page 330 line 5 to Page 331 line 3. | Computer, 73, has … capacity for positioning the start points (or other selected points) of program units at the play heads of said recorders. Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include not only "program unit identification code" information but also information regarding of the distance from the point on the tape at which a given SPAM message is embedded to the point on the tape where the program unit begins and ends (or to any other selected point). … (Such distance information can be embedded as SPAM message information segment information anywhere in the programming that SPAM information can be embedded …. |
| Column 12 lines 35-38 | The cable head end facility also contains signal strippers, 81, 85, and 89, of which models exist well known in the art, that controller/computer, 73, can instruct to remove signals from programing as required,… | Page 354 lines 18-21. | Fig. 6 shows signal strippers, 81, 85, and 89, of which models exist well known in the art, that computer, 73, can cause to remove SPAM information from programming as required,…. |
| Column 12 lines 38-41. | … and signal generators, 82, 86, and 90, also well known in the art, that controller/ computer, 73, can instruct to add signals to programing as required. | Page 354 lines 21-24. | … and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required. |
| Column 12 lines 45-47. | Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programing to signal processor, 71, | Page 337 lines 1-8. | Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | and signal processor, 96, | | In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, .... |
| Column 12 lines 47-50. | which permits both apparatus to monitor and record all the programing transmitted by the cable television system head end facility to field distribution system, 93. | Page 337 lines 8-12 | ... which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. |
| Column 12 lines 50-53. | Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs. | Page 337 lines 12-19. | By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs. |
| Column 12 lines 54-56. | Signal processors, 71 and 96, can transmit such records of programing to remote sites via telephone or other data transfer networks, 97 and 99 respectively. | Page 337 lines 19-21. | And said signal processor apparatus can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99, respectively. |
| Column 12 lines 57-58. | This particular embodiment describes a transmission facility transmitting only television programing. | Page 339 lines 9-11. | So far this disclosure has described an intermediate transmission station that transmits conventional television programming.... |
| Column 12 lines 58-61. | The facility could also process and transmit radio programing and other electronic data according to the methods described here ... | Page 339 lines 11-26. | ... however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming by adding appropriate transmission and recorder/player means and decoder/detector means with control means and using the same processing and transmitting methods. |
| Column 12 lines 61-64. | ... by adding radio decoder paths and other signal decoder paths, as shown in FIGS 2B and 2C respectively, to signal processors, 71 and 96, and decoders, 77, 79, 80, 84, and 88. | Page 339 lines 16-21. | ... by adding radio transmission and audio recorder/player means, each with associated radio decoder means as shown in Fig. 2B, wherever television means are shown in Fig. 6, all with similar control means to that shown in Fig. 6 and by processing radio programming with appropriately embedded signals according to the same processing and transmitting methods described above. |
| Column 12 lines 64-66. | Likewise, these methods are also applicable in a facility that transmits only a single channel of radio or television programing. | Page 339 lines 26-29. | This example has described methods at a multi-channel intermediate transmission station; the methods are also applicable in a station that transmits only a single channel of |

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| | | | television, radio, broadcast print or data. |
| Column 12 line 67. | **Methods for Governing the Reception of Programing** | *See generally* page 278 line 22 to page 312 line 30.<br><br>*See generally* page 427 line 8 to page 447 line 23. | **Regulating the Reception and Use of Programming** |

**XIII. COLUMN 13**

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| Column 13 lines 1-3. | FIGs **4A** through **4E** illustrate methods for governing the reception of programing and the use of signal processor apparatus in these methods. | Page 286 line 6. | Fig. 4 shows the Signal Processing Programming Reception and Use Regulating System .... |
| Column 13 lines 3-9. | All of these methods involve the use of one or more devices, of which various models exist well known in the art, for the decryption of programing transmissions and/or one or more other means for interrupting programing transmissions, also well known in the art, which may be as simple as a switch… | Page 286 line 34 to page 287 line 2. | Fig. 4 shows … three decryptors, 107, 224 and 231, a signal stripper, 229, and , …-associated with matrix switch, 258. |
| Column 13 lines 9-12. | …and which may have means to interrupt programing by generating noise which noise may be an overlay of another audio and/or video transmission. | Page 279 lines 21-29. | Still other techniques, also well known in the art, involve controlling jamming means that spoil transmitted programming at stations that lack authorizing information or are determined not to be duly authorized, thereby degrading the usefulness of said programming. Such other techniques include, for example, inserting so-called "noise" into the transmitted programming which noise may be, for example, overlays of one or more separate transmissions. |
| Column 13 lines 13-14. | FIG **4A** shows a signal processor, **100**, and a programing decrypter and/or interrupt means, **101**,… | Page 287 lines 22-27. | As Fig. 4 shows, signal processor, 200, controls all the aforementioned apparatus. Signal processor, 200, controls … matrix switch, 258; … decryptors, 107, 224 and 230;…. |
| Column 13 lines 14-15. | …each of which receives the same transmission of programing. | Page 299 lines 19-30. | Automatically, controller, 20, causes matrix switch, 258, to transfer the … video … from said tuner, 215, … to decryptor, 224, thereby causing said decryptor, 224, to receive … said video, and to transfer decrypted information of said video … to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information inputted from decryptor, 224, to … signal processor, 200, …. |
| Column 13 lines 16-17. | The devices, **100** and **101**, may receive one channel of programing or multiple channels. | Page 286 lines 9-12 | The subscriber station of Fig. 4 has capacity for receiving wireless television programming transmissions at a conventional antenna, 199, and a multi-channel cable transmission at converter boxes, 201 and 222. |
| Column 13 lines 17-20. | The signals that enable the decrypter/interrupter, **101**, to | Page 291 lines 9-24 | In the interval between said commence-enabling time and |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | decrypt and/or transfer programing uninterrupted may be embedded in the programing or may be elsewhere. | | said 8:30 PM time, said head end is caused, … to transmit a particular enabling SPAM message that consists of … enable-CC13 instructions and particular enable-WSW instructions that include particular enable-WSW-programming information, … *on the frequency of said master control channel.* (Hereinafter said message is called the "local-cable-enabling-message (#7).")<br>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, … |
| | | Page 289 lines 22-27 | In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences. |
| | | Page 290 lines 28-29 | particular **master cable control channel (that *may or may not be cable channel 13*)** from the multi-channel cable system |
| | | Page 298 lines 17-21. | Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission. |
| | | Page 299 lines 19-22. | Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, ... |
| Column 13 lines 20-21. | Signal processor, **100**, identifies, evaluates, possibly decrypts, and passes… | Page 15 lines 7-31. | In the present invention, particular signal processing apparatus (hereinafter called the "signal processor") detect signals and, …. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that **identify** signals encoded in programming transmissions and convert the encoded signals to digital information; **decryptors that may** … and one or more processor/monitors and/or buffer/comparators that organize and transfer the information stream. The processors and buffers can have inputs from each of the |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | receiver/detector lines and **evaluate** information continuously. From the processors and buffers, the signals may be **transferred** to external equipment such as computers,.... |
| Column 13 lines 21-23. | ...a signal or signals to decrypter/interrupter, **101**, either at the time of receipt of such programing... | Page 295 lines 24-35.<br><br>See also page 143, lines 10-30. | Automatically, controller, 20, causes matrix switch, 258, to transfer the information of said audio portion inputted from said tuner, 215, to the output that outputs to a selected decryptor, 107, thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio). Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm....<br><br>The second message conveys the second combining synch command. In example #2, before said message is embedded at the program originating studio and transmitted, the execution segment of said command and all of the meter-monitor segment except for the length-token are encrypted, using standard encryption techniques, well known in the art, that encrypt binary information without altering the number of bits in said information. Partially encrypting the second message in this fashion leaves the cadence information of said message unencrypted. In other words, the "00" header, the length- token, and any padding bits added at the end of said message remain unencrypted. Said message is only partially encrypted in order to enable subscriber stations that lack capacity to decrypt said message to process the cadence information of said message accurately.<br>In example #2, the encryption of said execution segment is done in such a fashion that, after encryption, said segment is identical to a particular execution segment that addresses URS signal processors, 200, and instructs said processors, 200, to use a particular decryption key J and decrypt the message in which said segment occurs. |
| Column 13 lines 23-24. | ...or at a delayed time or a combination. | Page 31 lines 26-29. | Controller, 12, receives time information from clock, 18, and has means to delay in a predetermined fashion the transfer of signals when, in a predetermined fashion, delayed transfer is determined to be required. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| Column 13 lines 24-25. | The signal or signals instruct decrypter/interrupter, **101**, to decrypt the transmission... | Page 298 lines 10-21. | Receiving the "1st-WSW-program-enabling-message (#7) causes controller, 20, to execute the aforementioned load-and-run-@20 instructions, to load the 1st-stage-enable-WSW- program instructions of the information segment at particular RAM of controller, 20, then to execute the information so loaded as the so-called machine language instructions of one so-called job.<br>Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission. |
| Column 13 lines 26-27. | ...or not to decrypt the transmission or to interrupt the transmission... | Page 300 lines 30-32. | Receiving said check-data-loaded signal causes controller, 20, under control of said 1st-stage-enable-WSW- program instructions, to cause the control processor, 39J.... |
| | | Page 301 lines 1-3. | A match occurs at the station of Fig 4, indicating that decryptor, 224, is decrypting its received information correctly. |
| | | **At a station where** Page 301 lines 4-31. | (Simultaneously other stations compare selected information of said check sequence to selected information of said 1st-stage-enable-WSW-program instructions. At each station **where a match fails to occur**--which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with—not resulting in a match causes the controller, 20, of said station to *cause all information of said 1st-WSW-program- enabling-message (#7)* ***to be erased*** from all memory of said station ... thereby disabling said apparatus.) |
| | | **with respect to** page 297 lines 23-29, | ... a particular SPAM message that consists of ... **1st-stage-enable-WSW-program instructions** ... (Hereinafter said message is called the *"1st-WSW-program-enabling-message (#7).")* |
| | | **Thus preventing through erasure** page 301 lines 32-34 | *Resulting in a match causes* controller, 20, to execute a particular portion of said **1st-stage-enable-WSW-program instructions**. |
| | | **And** page 310 lines 20- | ...microcomputer, 205, to commence transferring the |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | 24. | decrypted information of the transmitted video image to monitor, 202M, thereby causing monitor, 202M, to commence displaying, at its television picture tube, the information of the transmitted television image. |
| Column 13 line 27. | …or not to interrupt the transmission. | Page 300 lines 30-32 | Receiving said check-data-loaded signal causes controller, 20, under control of said 1st-stage-enable-WSW- program instructions, to cause the control processor, 39J,…. |
| | | Page 301 lines 1-3 | A match occurs at the station of Fig 4, indicating that decryptor, 224, is decrypting its received information correctly. |
| | | Page 301 lines 32-34 | Resulting in a match causes controller, 20, to execute a particular portion of said 1st-stage-enable-WSW-program instructions. |
| | | with respect to page 310 lines 20-24. | Receiving said check-data-loaded signal causes controller, 20, under control of said 1st-stage-enable-WSW- program instruct microcomputer, 205, to commence transferring the decrypted information of the transmitted video image to monitor, 202M, thereby causing monitor, 202M, to commence displaying, at its television picture tube, the information of the transmitted television image. |
| Column 13 lines 27-29. | The signal or signals may also inform decrypter/interrupter, **101**, how to decrypt… | Page 295 line 24 to page 296 line 3. | Automatically, controller, 20, causes matrix switch, 258, to transfer the information of said audio portion inputted from said tuner, 215, to the output that outputs to a selected decryptor, 107, thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio). Automatically, controller, 20, selects information of **cipher key Ca** from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion of the "Wall Street Week" program transmission to matrix switch, 258. |
| | | See also page 143, lines 10-30. | The second message conveys the second combining synch command. In example #2, before said message is embedded at the program originating studio and transmitted, the execution segment of said command and all of the meter-monitor segment except for the length-token are |

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| | | | encrypted, using standard encryption techniques, well known in the art, that encrypt binary information without altering the number of bits in said information. Partially encrypting the second message in this fashion leaves the cadence information of said message unencrypted. In other words, the "00" header, the length- token, and any padding bits added at the end of said message remain unencrypted. Said message is only partially encrypted in order to enable subscriber stations that lack capacity to decrypt said message to process the cadence information of said message accurately.<br>In example #2, the encryption of said execution segment is done in such a fashion that, after encryption, said segment is identical to a particular execution segment that addresses URS signal processors, 200, and instructs said processors, 200, to use a particular decryption key J and decrypt the message in which said segment occurs. |
| Column 13 lines 29-31. | …or interrupt the programing if decrypter/ interrupter, **101**, is capable of multiple means. | Page 300 lines 30-32.<br><br>Page 301 lines 4-14. | Receiving said check-data-loaded signal causes controller, 20, under control of said 1st-stage-enable-WSW- program instructions, to cause the control processor, 39J,….<br><br>(Simultaneously other stations compare selected information of said check sequence to selected information of said 1st-stage-enable-WSW-program instructions. At each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with--not resulting in a match causes the controller, 20, of said station to cause all information of said 1st-WSW-program- enabling-message (#7) to be erased from all memory of said station…. |
| Column 13 lines 31-32. | The signal or signals may transmit a code or codes necessary for the decryption of the transmission. | Page 292 lines 7-11.<br><br>Page 54 lines 2-6. | Receiving said message causes controller, 20, to load the enable-CC13 instructions and the enable-WSW instructions of the information segment of said message at particular RAM of controller, 20, and execute said instructions as the machine language instructions of one job.<br><br>An information segment can transmit any information that a processor can process. It can transmit compiled machine language code or assembly language code or higher level language programs, all of which are well known in the art. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | Page 294 lines 28-35. | Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions.<br>Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission,.... |
| | | Page 295 line 27 to page 296 line 2. | ...thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio). Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion of the "Wall Street Week" program.... |
| Column 13 lines 33-35. | FIG **4A** also shows local input, **102**, with means for generating and transmitting signals to signal processor, **100**. | Page 288 lines 1-4. | Finally, Fig. 4 shows local input, 225, well known in the art, which has means for generating and transmitting control information to controller, 20, of signal processor, 100. |
| Column 13 lines 35-36. | Local input, **102**, is intended to permit a person at a local receiving site... | Page 288 lines 4-9. | The function of local input, 225, is to provide means whereby a subscriber may input information to the signal processor of his subscriber station, thereby controlling the functioning of his personal signal processor system is specific predetermined fashions that are described more fully below. |
| Column 13 lines 36-37. | ...that is prevented, by any means, from receiving programing... | Page 286 lines 6-8. | Fig. 4 shows the Signal Processing Programming Reception and Use Regulating System that is the third feature of the present invention. |
| Column 13 lines 37-39. | ...to instruct signal processor, **100**, that the site wants to be enabled to receive the programing. | Page 289 lines 22-33. | In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences.<br>(So preprogramming controller, 20, can occur in several fashions. For example, prior to a particular time, a subscriber may enter particular please-fully-enable-WSW-on- CC13-at-particular-8:30 information at local input, 225, and cause said information, in a predetermined fashion, to be inputted to controller, 20, |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | | | by local input, 225. |
| Column 13 lines 39-40. | Local input, **102**, may also serve other purposes. | Page 395 lines 30-33. | Local input, 225, has capacity to input control instructions to signal processor, 200, and enables the subscriber of the station of Fig. 7 to manually input control instructions at any relevant time. |
| Column 13 lines 40-41. | Local input, **102**, may convey a continuous signal or an occassional signal or a one-time-only signal. | Page 289 lines 29-33.<br><br>Page 395 lines 30-33. | For example, prior to a particular time, a subscriber may enter particular please-fully-enable-WSW-on-CC13-at-particular-8:30 information at local input, 225, and cause said information, in a predetermined fashion, to be inputted to controller, 20, by local input, 225.<br><br>Local input, 225, has capacity to input control instructions to signal processor, 200, and enables the subscriber of the station of Fig. 7 to manually input control instructions at any relevant time. |
| Column 13 lines 42-43. | It may be activated by one or more switches or buttons or combinations. | Page 288 lines 9-13. | In the preferred embodiment, local input, 225, is actuated by keys that are depressed manually by the subscriber in the fashion of the keys of a so-called touch- tone telephone or the keys of a typewriter (or microcomputer) keyboard. |
| Column 13 lines 43-44. | It may be a computer acting in a predetermined fashion. | Page 288 lines 13-20. | As Fig. 4 shows, microcomputer, 205, also has capacity for inputting control information …, and in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205. |
| Column 13 lines 44-47. | The signal may be input to signal processor, **100**, as described in FIG **1**, at buffer/comparator, **8**, or signal processor or monitor, **12**, or buffer/comparator, **14**. | Page 289 lines 29-33. | For example, prior to a particular time, a subscriber may enter particular please-fully-enable-WSW-on-CC13-at-particular-8:30 information at local input, 225, and cause said information, in a predetermined fashion, to be inputted to controller, 20, by local input, 225. |
| Column 13 lines 48-53. | In the preferred embodiment, local input, **102**, inputs a one-time signal to signal processor, **100**, at buffer/ comparator, **8**, and transmits information in a digital code signal which information is input to local input, **102**, in an alphanumeric form manually by means of buttons. | Page 288 lines 9-13. | In the preferred embodiment, local input, 225, is actuated by keys that are depressed manually by the subscriber in the fashion of the keys of a so-called touch- tone telephone or the keys of a typewriter (or microcomputer) keyboard. |
| Column 13 lines 54-56. | FIGs **4B** and **4C** illustrate various alternative ways that signals may be input to the signal processor, **100**, **103**, or **106** as applicable. | Page 286 lines 6-7.<br><br>Page 311 lines 17-28. | Fig. 4 shows the Signal Processing Programming Reception and Use Regulating System …<br><br>It is obvious to one of ordinary skill in the art that the foregoing is presented by way of example only and that the invention is not to be unduly restricted thereby since modifications may be made in the structure of the various |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | parts without functionally departing from the spirit of the invention. … And for example, the transmitted programming may be processed through fewer than three steps of decryption or more than three. |
| Column 13 lines 56-60. | The fundamental point is that signals may be received in a manner that requires decryption and/or transmission by a decryptor/interruptor, **104**, before they reach the signal processor, as with signal processor **103** in FIG **4B**, | Page 299 lines 19-31. | Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video … from said tuner, 215, … to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video portion … , to decrypt said information, and to transfer decrypted information of said video … to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information inputted from decryptor, 224, to the output that that outputs to signal processor, 200, thereby causing signal processor, 200, to receive said information …. |
| Column 13 lines 60-61. | …or they may not, as with signal processor **100** in FIG **4A**,… | Page 291 lines 9-24. | In the interval between said commence-enabling time and said 8:30 PM time, said head end is caused, … , to transmit a particular enabling SPAM message that consists of … particular enable-CC13 instructions and particular enable-WSW instructions that include particular enable-WSW-programming information, and an end of file signal **on the frequency of said master control channel.** (Hereinafter said message is called the "local-cable-enabling-message (#7).") In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, …. |
| | | Page 289 lines 25-27. | … said "Wall Street Week" program when transmission of said program on cable cable 13 commences. |
| | | Page 290 lines 28-29. | …particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system…. |
| Column 13 lines 61-62. | …or some combination, as with signal processor **106** in FIG **4C**. | Page 291 lines 9-28. | In the interval between said commence-enabling time and said 8:30 PM time, said head end is caused, … , to transmit a particular enabling SPAM message that consists of … particular enable-CC13 instructions and particular enable-WSW instructions that include particular enable-WSW-programming information, and an end of file signal **on the frequency of said master control channel.** (Hereinafter said message is called the "local-cable-enabling-message (#7).") |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, select the information of the execution segment in said message, and determine that said selected information matches the aforementioned instance of enable-next-program-on-CC13 information at said particular controlled-function-invoking information location. |
| | | Page 289 lines 25-27. | ... "Wall Street Week" program when transmission of said program on cable cable 13 commences. |
| | | Page 290 lines 28-29. | ...particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system... |
| | | Page 299 lines 19-31 | Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video ... from said tuner, 215, ... to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video portion ... , to decrypt said information, and to transfer decrypted information of said video ... to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information inputted from decryptor, 224, to the output that that outputs to signal processor, 200, thereby causing signal processor, 200, to receive said information .... |
| Column 13 lines 63-68. | However, FIGs **4A**, **4B**, and **4C** do not fully illustrate this point because these figures do not reveal that the question of the need for decryption prior to reaching the signal processor depends, among other things, on where the signal or signals are placed in the incoming transmission. | Page 149 line 27 to page 150 line 6. | Decryptor, 10, commences receiving said information, decrypting it using said key J information and transferring it to controller, 12, as quickly as controller, 12, accepts it. The process of decryption proceeds in a particular fashion. Said decrypt-a-00-header-message instructions cause controller, 20, to cause decryptor, 10, to transfer the first H bits without decrypting or altering said bits in any fashion, to decrypt and transfer the next X bits, to transfer the next L bits without decrypting or altering said bits, to decrypt and transfer the next MMS-L bits, and finally, to transfer any bits remaining after the last of said MMS-L bits without decrypting or altering said bits. In this fashion, the cadence information in said message, which is not encrypted, is transferred by decryptor, 10, to controller, 12, without alteration. |
| Column 13 line 68 to column 14 line 1. | A decrypter does not necessarily decrypt the entire transmission. | Page 149 line 27 to page 150 line 6. | Decryptor, 10, commences receiving said information, decrypting it using said key J information and transferring it |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | | | to controller, 12, as quickly as controller, 12, accepts it. The process of decryption proceeds in a particular fashion. Said decrypt-a-00-header-message instructions cause controller, 20, to cause decryptor, 10, to transfer the first H bits without decrypting or altering said bits in any fashion, to decrypt and transfer the next X bits, to transfer the next L bits without decrypting or altering said bits, to decrypt and transfer the next MMS-L bits, and finally, to transfer any bits remaining after the last of said MMS-L bits without decrypting or altering said bits. In this fashion, the cadence information in said message, which is not encrypted, is transferred by decryptor, 10, to controller, 12, without alteration. |

**XIV. COLUMN 14**

| | | | |
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| Column 14 lines 1-2. | Encrypted transmissions may be only partially encrypted. | Page 288 line 30 to page 289 line 4. | In example #7, the program originating studio that originates the "Wall Street Week" transmission transmits a television signal that consists of so-called "digital video" and "digital audio," well known in the art. Prior to being transmitted, the digital video information is doubly encrypted, … The digital audio is transmitted in the clear. |
| Column 14 lines 2-3. | For example, only the video portion of the transmission may be encrypted. | Page 288 line 33 to page 289 line 3. | Prior to being transmitted, the digital video information is doubly encrypted, … The digital audio is transmitted in the clear. |
| Column 14 lines 4. | The audio portion may remain unencrypted. | Page 289 lines 3-4. | The digital audio is transmitted in the clear. |
| Column 14 lines 4-9. | In such a circumstance, a connection such as that shown in FIG **4B** could pass unencrypted signals to signal processor **103**, while passing a transmission unsuitable for satisfactory viewing, if the signals were placed in the audio portion of the overall transmission. | Page 297 lines 20-32. | Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, said program originating studio **embeds in the audio** portion and transmits a particular SPAM message that consists of … particular 1st-stage-enable-WSW-program instructions as the information segment information, and an end of file signal. (Hereinafter said message is called the "1st-WSW-program-enabling-message (#7).")<br>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, … to detect the information of said message … |
| Column 14 lines 10-12. | …a method that provides a signal or signals to signal processor, **106**, prior to decryption… | Page 291 lines 9-24. | In the interval between said commence-enabling time and said 8:30 PM time, said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of … enable-CC13 instructions and … enable-WSW instructions … on the frequency of said master control channel. (Hereinafter said message is called |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | the "local- cable-enabling-message (#7).") In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message,.... |
| Column 14 lines 12-14. | ...which signal or signals enables decryptor/interruptor, **107**, to decrypt and/or pass programing transmissions it receives... | Page 294 line 28 to page 295 line 34. | Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions. Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission, ... thereby causing said tuner, 215, to receive the information of cable channel 13 and output the audio and video portions of said information to matrix switch, 258, on the separate audio and video outputs of said tuner, 215. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of said audio portion inputted from said tuner, 215, to the output that outputs to a selected decryptor, 107, thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio). Automatically, controller, 20, ... causes decryptor, 107, to commence decrypting its received audio information, ... |
| Column 14 lines 14-17. | ...then signal processor, **106**, searches in a predetermined fashion for a second signal or set of signals in the decrypted output of decryptor/interruptor, **107**. | Page 296 lines 3-23.<br><br>Page 300 lines 10-21. | Automatically, controller, 20, causes matrix switch, 258, to transfer the information inputted from decryptor, 107, to the output that that outputs to signal processor, 200, thereby causing signal processor, 200, to receive said information at a particular third alternate contact of switch, 1, (that is not shown in Fig. 2). Automatically, controller, 20, ... causes switch, 1, to connect to said third contact, thereby inputting said information to mixer, 3; and causes mixer, 3, (by control transmission means via oscillator, 6) to transfer said information without any modification; causes the control processor, 39J, of decoder, 30, to cause the filter, 31, and modulator, 32, to transfer said information without any modification; causes said control processor, 39J, ... to cause digital detector, 38, to commence inputting detected information to controller, 39; and causes said control processor, 39J, to commence waiting to receive the header information of a SPAM message.<br><br>In due course, but still before said 8:30 PM time, said |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | program originating studio embeds in the video portion and transmits particular SPAM check information that is not a SPAM message and consists only of a particular check sequence of binary information followed by an end of file signal. (Hereinafter said SPAM check information is called the "1st- WSW-decryption-check (#7).") … Receiving the binary information of said check sequence at decoder, 30, causes digital detector, 38, to detect said information and causes control processor, 39J, to…. |
| Column 14 lines 17-21. | If this second signal or set of signals fails to appear in the form or forms and place or places and time or times that signal processor, **106**, expects, signal processor, **106**, can respond in a predetermined fashion and generate… | Page 301 lines 4-31. | (Simultaneously other stations compare selected information of said check sequence to selected information of said 1st-stage-enable-WSW-program instructions. At each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with--not resulting in a match causes the controller, 20, of said station … then to transmit the aforementioned appearance-of-tampering information together with complete information of the unique digital code that identifies said station uniquely. … thereby disabling said apparatus.) |
| Column 14 lines 21-22. | …and record in digital recorder, **16** (referring to Fig. **1**),… | Page 31 line 30 to page 32 line 2. | Buffer/comparator, 14, receives signal information that is meter information and/or monitor information from controller, 12, and from other inputs; organizes said received information into meter records and/or monitor records (called, in aggregate, hereinafter, "signal records") in a predetermined fashion or fashions; and transmits said signal records to a digital recorder, 16, and/or to one or more remote sites. |
| Column 14 lines 22-25. | …information that reports this fact in a predetermined fashion and/or transfer this information immediately to a remote site by telephone means and/or … | Page 301 lines 4-25. | … , then to … , to cause the auto dialer, 24, and telephone connection, 22, of said station to establish telephone communications with a particular predetermined remote station, in the fashion described above, and causes controller, 20, then to transmit the aforementioned appearance-of-tampering information together with complete information of the unique digital code that identifies said station uniquely. … |
| Column 14 lines 25-27. | generate and transmit to decryptor/interruptor, **107**, instructions that disable decryptor/interruptor, **107**. | Page 311 line 33 to page 312 line 4. | And for example, determining that a local station is not preprogrammed properly and/or that decryption … apparatus are not functioning correctly may cause apparatus of said station to perform other steps of disabling and/or communicating--eg., the local apparatus may disable local apparatus selectively and only partially by, for example, |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | | | preventing a decoder, ... |
| | | Page 301 lines 4-31. | (Simultaneously other stations compare selected information of said check sequence to selected information of said 1st-stage-enable-WSW-program instructions. At each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with--not resulting in a match causes the controller, 20, of said station to cause all information of said 1st-WSW-program- enabling-message (#7) to be erased from all memory of said station ... thereby disabling said apparatus.) |
| Column 14 lines 28-32. | FIG **4D** shows that a multi-stage decryption/inter- ruption process may be used in which transmissions must be processed by one or more additional decryptor/interruptors, **111**, that follow decryptor/interruptor, **110**. | Page 299 lines 13-27. | Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video portion (said information being, as explained above, encrypted digital video), to decrypt said information, and to transfer decrypted information of said video portion to matrix switch, 258. |
| | | Page 305 lines 9-31. | Executing said 2nd-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, ... to affect a second and last stage of decrypting the digital video information of the "Wall Street Week" program transmission. ... Automatically, controller, 20, causes matrix switch, 258, ... to commence transferring the information inputted from decryptor, 224, to the output that outputs ... to decryptor, 231; ... |
| | | Page 308 lines 19-20. | ...indicating that decryptors, 224 and 231, are decrypting received information correctly. |
| Column 14 lines 33-35. | FIG **4E** illustrates that the signal processor, **112**, can monitor | Page 29 lines 8-15. | At switch, 1, and mixers, 2 and 3, signal processor, 26, |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | multiple channels and pass instructions to multiple decryptor/interruptors,... | | monitors all frequencies or channels available for reception at the subscriber station of Fig. 2 to identify available programming. The inputted information is the entire range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design. |
| | | Page 287 lines 22-29. | As Fig. 4 shows, signal processor, 200, controls all the aforementioned apparatus. Signal processor, 200, controls ... decryptors, 107, 224 and 230; ... |
| Column 14 lines 35-37. | ...each of which processes fewer channels than the multiple channels processed by signal processor, **112**. | Page 299 lines 13-27. | Automatically, controller, 20, ... causes decryptor, 224, to commence decrypting any received information, ... and outputting decrypted information to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer ... the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video portion (said information being, as explained above, encrypted digital video), to decrypt said information, and to transfer decrypted information of said video portion to matrix switch, 258. |
| | | Page 305 lines 9-32. | Executing said 2nd-stage-enable-WSW-program instructions causes controller, 20, ... to commence transferring the information inputted from decryptor, 224, to the output that outputs to signal stripper, 229; to commence transferring the information inputted from signal stripper, 229, to the output that outputs to signal generator, 230; to commence transferring the information inputted from signal generator, 230, to the output that outputs to decryptor, 231; and to commence transferring the information inputted from decryptor, 231, to .... |
| | | Page 29, lines 8-11 | At switch, 1, and mixers, 2 and 3, signal processor, 26, monitors all frequencies or channels available for reception at the subscriber station of Fig. 2 to identify available programming. |
| Column 14 lines 37-39. | FIG **4E** illustrates how signals transmitted on one channel can govern the decryption and/or transfer of another channel. | Page 291 lines 10-24. | ...said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions ... on the frequency of said master control channel. (Hereinafter said message is called the "local- cable-enabling-message (#7).") In the fashions described above, so transmitting said |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
|---|---|---|---|
| | | | SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message,… |
| | | Page 289 lines 25-27. | … said "Wall Street Week" program when transmission of said program on cable cable 13 commences. … <br><br> …to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system… |
| | | Page 290 lines 27-29. | Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions. |
| | | Page 294 lines 28-35. | Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission, … |
| Column 14 lines 39-41. | Signal processor, **112**, receives, evaluates, and processes a multiple channel transmission from cable transmission facility, **113**. | Page 15 lines 7-31. | In the present invention, particular signal processing apparatus (hereinafter called the "signal processor") detect signals and, … The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that **identify** signals encoded in programming transmissions and convert the encoded signals to digital information; **decryptors that may** … and one or more processor/monitors and/or buffer/comparators that organize and transfer the information stream. The processors and buffers can have inputs from each of the receiver/detector lines and **evaluate** information continuously. From the processors and buffers, the signals may be **transferred** to external equipment such as computers, … |
| | | 289 lines 12-15. | In example #7, the intermediate station that retransmits "Wall Street Week" program information to the subscriber station of Fig. 4 is a cable television system head end (such as the head end of Fig. 6). |
| Column 14 lines 42-43. | Cable converter box, **114**, of which many types are now available,… | Page 295 line 8. | …converter box, 201, …. |
| Column 14 lines 43-44. | …with means for informing signal processor, **112**, which channel of programing it is transferring,… | Page 295 line 6 to page 296 line 7. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
|---|---|---|---|
| | | | received information of said frequency (which information is received by means of its multi-channel cable system transmission input) to a selected output frequency and transfer said information;… thereby causing signal processor, 200, to receive said information …. |
| Column 14 lines 45-46. | …receives the same multi-channel transmission and transfers one channel to decryptor/interruptor, **115**. | Page 295 lines 6-29. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its received information of said frequency (which information is received by means of its multi-channel cable system transmission input) to a selected output frequency and transfer said information at said frequency to matrix switch, 258. … Automatically, controller, 20, causes matrix switch, 258, to transfer the information inputted from said box, 201, to the output that outputs to television tuner, 215, and causes said tuner, 215, to tune to said selected frequency, thereby causing said tuner, 215, to receive the information of cable channel 13 and output the audio and video portions of said information to matrix switch, 258, on the separate audio and video outputs of said tuner, 215. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of said audio portion inputted from said tuner, 215, to the output that outputs to a selected decryptor, 107, thereby causing said decryptor, 107, to receive the information of said audio portion…. |
| Column 14 lines 46-49. | The signal or signals necessary for the decryption of the channel that box, **114**, passes to decryptor/interruptor, **115**,… | Page 299 lines 13-25. | Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video portion (said information being, as explained above, encrypted digital video), to decrypt said information,…. |
| Column 14 lines 49-50. | …in this case, is not located in the channel transmission. | Page 298 line 34 to page 299 line 1. | At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba. |
| Column 14 lines 50-51. | They may be preprogramed into the signal processor (for example,… | Page 299 lines 13-17. | Automatically, controller, 20, transfers said decryption cipher **key Ba** information to a selected decryptor, 224, and |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B,…. |
| | | Page 298 line 33 to page 299 line 1. | At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher **key Ba.** |
| Column 14 lines 51-52. | …in programable randon access memory controller, **20**, in Fig. **1**)… | Page 293 line 20. | …such as, for example, the RAM of controller, 20;…. |
| Column 14 lines 52-54. | …or they may be transmitted in a channel other than the channel being transferred from box, **114**. | Page 291 lines 10-20. | …said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of … **enable-CC13 instructions** and … enable-WSW instructions that include particular enable-WSW-programming information, … **on the frequency of said master control channel.** (Hereinafter said message is called the "local- cable-enabling-message (#7).") … |
| | | Page 289 lines 25-27. | … said "Wall Street Week" program when transmission of said program on cable cable 13 commences. … |
| | | Page 290 lines 28-29. | …particular master cable control channel (that may or *may not be cable channel 13*) from the multi-channel cable system…. |
| | | Page 294 lines 28-35. | Resulting in a match causes controller, 20, to execute a particular **portion of said enable-CC13 instructions.** Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission,…. |
| Column 14 lines 54-55. | If signal processor, **112**, has been preprogramed with the signal or signals… | Page 298 line 33 to page 299 line 1. | At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba. |
| Column 14 lines 55-58. | …or if it has been informed of the predetermined fashion for identifying and processing the the needed signal or signals in the incoming transmission from facility, **113**,… | Page 289 line 22 to page 290 line 10. | In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences. … Receiving any given instance of please-fully-enable- |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | | | WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to select particular WSW-on- CC13-at-particular-8:30 information in said received information, record said selected information at particular memory, and execute particular receive-authorizing-info-at- appointed-time instructions. ... |
| Column 14 lines 58-59. | ...for example, where to look for the signals... | Page 290 lines 11-12.<br><br>Page 290 lines 26-30.<br><br>OR Page 298 lines 17-18.<br><br>Page 298 line 34 to page 299 line 1. | In a predetermined fashion, executing said instructions causes controller, 20,....<br><br>...causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200,....<br><br>Executing said 1st-stage-enable-WSW-program instructions causes controller, 20,....<br><br>At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba. ... |
| Column 14 line 59. | ...and when... | Page 290 lines 11-17.<br><br>OR<br><br>Page 297 lines 20-21. | In a predetermined fashion, executing said instructions causes controller, 20, causes prepare to receive a particular enabling SPAM message at a particular time. Automatically, controller, 20, checks the time of the clock, 18, of signal processor, 200, periodically. At a particular commence-enabling time that is a predetermined interval prior to the aforementioned 8:30 PM time....<br><br>Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, .... |
| Column 14 line 59. | ...and how,... | Page 290 lines 11-12,<br><br>lines 21-26.<br><br>Page 291 lines 21-28. | In a predetermined fashion, executing said instructions causes controller, 20,....<br><br>....transmits particular preprogrammed enable-next-program-on-CC13 information to the control processor, 39J, of said decoder, 30, and causes said control processor, 39J, to place one instance of said information at a particular controlled-function-invoking information location; causes the oscillator, 6,....<br><br>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | (to which said master control channel is inputted), to detect the information of said message, select the information of the execution segment in said message, and determine that said selected information matches the aforementioned instance of enable-next-program-on-CC13 information at said particular controlled-function-invoking information location. … |
| Column 14 lines 59-61. | …signal processor, **112**, can transfer the signal to decryptor/interruptor, **115**. | Page 295 line 30 to page 296 line 1. | Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion…. |
| | | Page 299 lines 13-18. | Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. … |
| Column 14 line 61 to column 15 line 1. | The tuner, **119**, informs signal processor, **112**, what channel box, **114**, is switched to whenever it is switched or turned on. Signal processor, **112**, receives this information probably at buffer/comparator, **8** (referring to Fig. 1), which signal processor, **112**, processes the signal from tuner, **119**, in a predetermined fashion that causes the signal or signals that relate to the necessary proper operation of decryptor/interruptor, **115**. | Page 295 line 6 to page 296 line 7. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its received information of said frequency (which information is received by means of its multi-channel cable system transmission input) to a selected output frequency and transfer said information;… thereby causing signal processor, 200, to receive said information …. |

## XV. COLUMN 15

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| Column 15 lines 1-4. | If signal processor, **112**, can identify, processes, and transfer the needed signal or signals, decryptor/interruptor, **115**, can decrypt and/or transfer the incoming transmission from box, **114**, satisfactorily. | Page 291 lines 21-32. | In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, select the information of the execution segment in said message, and determine that said selected information matches the aforementioned instance of enable-next-program-on-CC13 information at said particular controlled-function-invoking information location. So determining a match causes the control processor, 39J, to execute particular preprogrammed transfer-this-message-to-controller-20 instructions that are associated with the |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | | | instance of information at said particular location. |
| | | Page 294 lines 28-35. | Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions. Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission,…. |
| Column 15 lines 4-7. | If signal processor, **112**, cannot transfer the needed signal or signals, decryptor/interruptor, **115**, cannot decrypt and/or transfer the programing transmission satisfactorily. | Page 301 lines 6-10. | At each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with…. |
| Column 15 lines 8-9. | FIG **4E** also illustrates how it may be necessary to decrypt a programing transmission on one channel… | Page 294 lines 30-35. | Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission,…. |
| | | Page 295 lines 6-30. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its received information of said frequency (which information is received by means of its multi-channel cable system transmission input) to a selected output frequency and transfer said information at said frequency to matrix switch, 258. … Automatically, controller, 20, causes matrix switch, 258, to transfer the information of said audio portion … to a selected decryptor, 107, thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio). |
| Column 15 lines 9-11. | …in order to identify and process correctly the programing transmitted on another. | Page 300 lines 10-12, | In due course, but still before said 8:30 PM time, said program originating studio embeds in the video portion and transmits particular SPAM check information…. |
| | | Page 300 line 30 to page 301 line 3. | Receiving said check-data-loaded signal causes controller, 20, under control of said 1st-stage-enable-WSW- program instructions, to cause the control processor, 39J, of decoder, 30, to transfer to controller, 20, selected information of said |

| Parent Spec References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst Spec References | Instant Specification - 1987 Priority |
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| | | | check sequence of binary information and compare said selected information to selected information of said 1st-stage-enable-WSW-program instructions. A match occurs at the station of Fig 4, indicating that decryptor, 224, is decrypting its received information correctly. |
| | | Page 299 lines 19-23. | …controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video … to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video…. |
| Column 15 lines 11-12. | In Fig. **4E**, the signal or signals needed to operate decryptor/interruptor, **115**, correctly… | Page 298 lines 17-21. | Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission. |
| | | Page 299 lines 13-18. | Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. |
| Column 15 lines 13-14. | …may be on a separate channel of programing that is, itself, encrypted in transmission. | Page 297 lines 20-29. | Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, said program originating studio embeds in the audio portion and transmits a particular SPAM message that consists of … 1st-stage-enable-WSW-program instructions as the information segment information, and an …. (Hereinafter said message is called the "1st-WSW-program-enabling-message (#7).") |
| | | Page 294 lines 33-35. | …to cause selected apparatus to decrypt the audio portion of said transmission, …. |
| Column 15 lines 14-15. | Signal processor, **112**, can transfer the correct signal or signals… | Page 297 line 28 to page 298 line 9. | (Hereinafter said message is called the "1st-WSW-program-enabling-message (#7).") In the fashions described above, so transmitting said SPAM message causes signal processor, 200, … to execute the aforementioned transfer-this- message-to-controller-20 instructions. Executing said instructions causes said control processor, 39J, to transfer the information of said message to controller, 20, in the fashion of the local-cable- enabling-message (#7). |
| Column 15 lines 15-16. | …only if cable converter box, **117**, is tuned to the proper | Page 295 lines 6-30. | Then, automatically, controller, 20, causes a selected tuner, |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | channel and … | | 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its received information of said frequency (which information is received by means of its multi-channel cable system transmission input) to a selected output frequency and transfer said information at said frequency to matrix switch, 258. … Automatically, controller, 20, causes matrix switch, 258, to transfer the information of said audio portion … to a selected decryptor, 107, thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio). |
| Column 15 lines 17-19 | …decryptor/interruptor, **118**, can transfer a correctly decrypted transmission to signal processor, **112**, for processing. | Page 295 line 30 to page 296 line 6. | Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, … and outputting decrypted information of the audio portion … to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information inputted from decryptor, 107, to the output that that outputs to signal processor, 200, …. |
| Column 15 lines 20-22. | In any of the cases illustrated in FIGs **4A** through **4E**, signal processors, **100**, **103**, **106**, **109**, and **112**, could also operate in a predetermined fashion… | Page 311 line 33 to page 312 line 2.<br><br>Page 293 lines 32-35.<br><br>Page 301 lines 6-9.<br><br>Page 308 line 35 to page 309 line 3. | And for example, determining that a local station is not preprogrammed properly and/or that decryption, … apparatus are not functioning correctly may cause apparatus of said station to perform other steps of disabling and/or communicating….<br><br>At each station where a match fails to occur--which suggests that the preprogrammed SPAM operating information of said station has been tampered with in an unauthorized fashion….<br><br>… each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly….<br><br>At each station where a … a match does not result--which indicates that a decryptor, 224 or 231, is not decrypting its received information correctly…. |
| Column 15 lines 22-25. | …and telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or transfer of incoming programing transmissions. | Page 312 lines 6-8. | …may interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information. |
| Column 15 line 26. | **Methods for Monitoring Reception and Operation** | *See generally* page 162 line 27 to page 193 line | **Monitoring Receiver Station Reception and Operation** |

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| | | 10, and page 312, line 32 to page 324 line 5. | |
| Column 15 lines 27-30. | FIG 5 illustrates methods for monitoring reception and operation which methods can be used to gather statistics on programing usage and associated uses of other data transmissions and equipment. | Page 28 lines 25-29.<br><br>Page 312 line 33 to page 313 line 8. | [Signal processor 200 in Fig. 7 and elsewhere] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage.<br><br>Fig. 5 illustrates means and methods for monitoring receiver station reception and use of programming and modes of receiver station operation … The means and methods facilitate the collection of statistics that identify not only what programming is received and displayed at given subscriber stations but also, for example, which local apparatus receives programming and which displays programming, how received programming is processed, what local apparatus is controlled in the course of processing …. |
| Column 15 lines 30-32. | Such statistics are necessary, for example, in the development of television program ratings. | Page 28 lines 29-35.<br><br>Page 162 lines 31-34. | [Signal processor 200 in Fig. 7 and elsewhere] has capacity for transferring … said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.<br><br>… signal processing apparatus and methods are used to collect monitor information for so-called "program ratings" (such as so-called "Nielsen ratings") that estimate the sizes of television (or radio) program audiences. |
| Column 15 lines 33-39. | FIG 5 shows two conventional TV sets, 132 and 144, a conventional video cassette recorder, 135, a conventional videodisc player, 137, a conventional radio, 141, a conventional microcomputer, 142, a conventional data printer, 146, and a television set, 148, that is capable of displaying two different television programing transmissions at once. | Page 313 line 16 to page 314 line 16. | Fig. 5 shows a variety of input apparatus with capacity for inputting programming (including SPAM information) selectively, via matrix switch, 258, to apparatus of the subscriber station of Fig. 5, intermediate apparatus with capacity for processing and/or recording inputted programming selectively, and output apparatus for displaying or otherwise outputting programming selectively to human senses.<br>Input apparatus include … Laser disc player, 232, … videodisc player") …<br>Intermediate apparatus include microcomputer, 205, radio tuner & amplifier, 213, TV tuner, 215, audio recorder/player, 255, and video recorder/player, 217, all of which are well known in the art ….<br>Output apparatus that display or otherwise output programming selectively to human senses include, for |

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| | | | example, TV monitor, 202M, multi-picture television monitor, 148, speaker system, 263, and printer, 221,…. |
| Column 15 lines 39-41. | This is only a representative group of equipment. Many other types of television and radio players and recorders could be included in FIG 5. | Page 314 lines 17-19. | (This is only a representative group of equipment; many other types of communications and computer apparatus could be included in Fig. 5.) |
| Column 15 lines 42-43. | Except for the videodisc player which neither records nor displays programing or other data,… | Page 313 lines 24-30. | Input apparatus include … Laser disc player, 232, … videodisc player") … |
| Column 15 lines 43-44. | …each unit has an appropriate associated signal decoder. | Page 314 lines 20-21. | Associated with each intermediate apparatus and output apparatus is one or more appropriate decoders. |
| Column 15 lines 44-46. | Each decoder is likely to be located physically inside its associated player/ recorder unit. | Page 314 lines 31-33. | At other output system, 261, is other decoder, 286. Each decoder is likely to be located physically inside the unit of its associated intermediate or output apparatus. |
| Column 15 lines 46-49. | Each is located at a point in the associated unit's circuitry where it receives every embedded signal on the programing channel or data channel to which the unit is tuned… | Page 315 lines 14-19. | In the preferred embodiment, each one of said decoders is located at a point in the circuitry of its associated apparatus where said one receives (so as to detect all SPAM information on) the information of the selected frequency, channel or transmission to which its associated apparatus is tuned. |
| Column 15 lines 49-51. | …for which signal the decoder is programed in a predetermined fashion to search. | Page 315 lines 20-24. | Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned. |
| Column 15 lines 52-56. | If a unit like the microcomputer can receive transmissions from more than one source or of more than one kind--television, radio, or other--it will have sufficient apparatus to monitor every channel and kind of transmission it can receive. | Page 317 lines 2-6. | If a given intermediate or output apparatus can receive transmissions from more than one source or of more than one kind--television, radio, or other--it will have sufficient apparatus to monitor every channel and kind of transmission it can receive. |
| Column 15 line 57. | The signals for which the decoders are monitoring… | Page 315 lines 20-24.<br><br>Page 44 lines 26-32. | Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.<br><br>Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below. |
| Column 15 lines 58-60. | …are likely to be unique digital codes that may identify each programing or data unit received and the source of | Page 49 lines 26-28. | Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such |

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| | each. | <br>Page 50 lines 14-20. | information include:<br>…unique codes for programming; … and unique codes that identify the sources and suppliers of computer data. |
| Column 15 lines 60-62. | They may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission. | Page 49 lines 26-28.<br>Page 50 lines 1-4. | Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:<br>…origins of transmissions (eg., network source stations, broadcast stations, cable head end stations); dates and times…. |
| Column 15 lines 62-63. | They may convey unique identifier codes for each program or commercial. | Page 49 lines 26-28.<br>Page 50 lines 6-7. | Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:<br>…unique identifier codes for each program unit (including commercials);…. |
| Column 15 lines 63-65. | In the case of data transmitted to the micro- computer, they may be unique codes that identify the source and suppliers of the data. | Page 49 lines 26-28.<br>Page 50 lines 19-20. | Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:….<br>…unique codes that identify the sources and suppliers of computer data. |
| Column 15 lines 65-68. | In the case of data received at the printer, they may identify publications, articles, publishers, distributors, advertise ments, etc. | Page 425 lines 35 to page 426 line 1.<br>Page 421 lines 13-15. | …and causes said AT&T news item to be printed at said printer, 221.<br>…meter-monitor segment that contains the "program unit identification code" information of said AT&T news item and subject matter information of said binary information of "T",…. |
| Column 15 line 68- Column 16 line 2. | The decoders, 131, 136, 138, 143, 145, 147, 149, and 150, may search for many types of codes, and the types described here provide only examples. | Page 50 lines 23-26. | The categories listed here provide only examples. Other types of information can exist in meter information and/or in monitor information, as will become apparent in this full specification. |

**XVI. COLUMN 16**

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| Column 16 lines 3-4. | In FIG 5, each decoder receives every relevant signal received by its associated player or recorder unit. | Page 314 lines 34-35.<br>Page 315 lines 20-24. | At any given subscriber station, any given SPAM decoder may merely monitor the operation of its associated….<br>Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned. |
| Column 16 lines 5-10. | For example, TV set, 131, may receive programing from many sources including cable converter box, 133, video cassette recorder, 135, and videodisc player, 137. In every programing unit played on TV set, 132, TV decoder, 131, receives every signal for which it is instructed to search in a predetermined fashion and… | Page 313 lines 16-23.<br><br>Page 314 lines 20-28. | Fig. 5 shows a variety of input apparatus with capacity for inputting programming (including SPAM information) selectively, via matrix switch, 258, to apparatus of the subscriber station of Fig. 5, intermediate apparatus with capacity for processing and/or recording inputted programming selectively, and output apparatus for displaying or otherwise outputting programming selectively to human senses.<br><br>Associated with each intermediate apparatus and output apparatus is one or more appropriate decoders. … At TV tuner, 215, is TV decoder, 282. … At TV monitor, 202M, is TV decoder, 145. |
| Column 16 lines 10-11. | …transfers the signals to signal processor, 130,… | Page 315 lines 6-8.<br><br>Page 315 lines 20-24. | Fig. 5 shows each decoder as having capacity for transferring monitor information to signal processor, 200, by bus communications means.<br><br>Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned. |
| Column 16 lines 11-13. | …which has means to identify the source decoder from which each signal that it receives comes. | Page 322 lines 33-35.<br><br>Page 174 lines 4-14. | …monitor information (#3) except that the source mark information identifies decoder, 282, rather than decoder, 203.<br><br>Under control of said instructions, said match causes control processor, 39J, to cause matrix switch, 39I, to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, (while said switch is simultaneously transferring information from control processor, 39J, to the CPU of microcomputer, 205); to transfer to said buffer/comparator, 14, header information that identifies a transmission of monitor information then particular decoder-203 information that is the source mark of said decoder, 203,…. |
| Column 16 lines 13-18. | On all programing recorded by video cassette recorder, 135, decoder, 136, receives every relevant signal and transfers such signals to signal processor 130. Radio signal decoder, 138, operates similarly for radio, 141. Other signal decoder, 143, for microcomputer 142. | Page 314 lines 20-26. | Associated with each intermediate apparatus and output apparatus is one or more appropriate decoders. At radio tuner & amplifier, 138, are radio decoder, 138, and other decoder, 281. … At video recorder/player, 217, is TV decoder, 218. At microcomputer, 205, is TV decoder, 203. |

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| Column 16 lines 18-21. | TV signal decoder, 145, for TV set, 144 (which may receive programing inputs and associated signals generated or transferred by microcomputer, 142). | Page 322 line 26 – Page 323 line 11. | The programming of said "Wall Street Week" program is received at tuner, 215, and displayed at monitor, 202M. Accordingly, transmitting said messages will also cause the decoder associated with tuner, 215-- decoder, 282--to detect, process, and transmit monitor information of said messages to onboard controller, 14A, that is identical to said 1st monitor information (#3) and 2nd monitor information (#3) except that the source mark information identifies decoder, 282, rather than decoder, 203. Likewise, unless the Fig. 1B information overlaid at microcomputer, 205, covers and obliterates the embedded information of said messages that is inputted from divider, 4, to microcomputer, 205, and would otherwise be transmitted to monitor, 202M, in the combined programming outputted by microcomputer, 205, (which covering and obliterating does not occur in example #3), transmitting said messages will also cause the decoder, 145, to detect, process, and transmit monitor information of said messages to onboard controller, 14A, that is also identical to said 1st and 2nd monitor information (#3) except that the source mark information identifies decoder, 145. |
| Column 16 lines 21-24. | Other signal decoder, 147, for printer 146. And TV signal decoders, 150 and 149, for each channel of programing received and displayed by multi-picture TV set, 148. | Page 314 lines 20-30. | Associated with each intermediate apparatus and output apparatus is one or more appropriate decoders. … At multi-picture TV monitor, 148, are TV decoders, 149 and 150. … At printer, 221, is other decoder, 227. |
| Column 16 lines 25-32. | One particular advantage of these methods for monitoring programing is that, by locating the identifier signals in the audio and/or video and/or other parts of the programing that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings. | Page 319 lines 23-30. | One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings. |
| Column 16 lines 32-35. | For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City. | Page 319 lines 30-33. | For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City. |
| Column 16 lines 35-39. | Recorder, 135, might receive the programing over Manhattan Cable TV channel 4 and record the programing from 7:00 PM to 7:30 PM on the evening of July 15, 1985. | Page 319 line 33 – Page 320 line 2. | Recorder, 217, might receive the programming over Manhattan Cable TV channel 4 and record the programming at the time of original broadcast transmission--from 7:00 PM to 7:30 PM on the evening of July 15, 1985. |
| Column 16 lines 39-41. | Each discrete bit of this information could be conveyed to recorder, 135, in a signal unit or units in the programing so received and recorded. | Page 320 lines 2-8. | Each discrete bit of this information could be transmitted to the subscriber station of Fig. 5 in meter-monitor information … embedded in the transmitted programming. So |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | | | embedding and transmitting said meter-monitor information would cause recorder, 217, to record said information. |
| Column 16 lines 41-43. | Decoder, 136, would identify these signals and transfer them to signal processor, 130. | Page 320 lines 9-10. | ...decoder, 218, would detect said information and transfer said information to signal processor, 200, .... |
| Column 16 lines 43-45. | Subsequently, the person might play the recorded programing on TV set, 132, from 10:45 PM to 11:15 PM the same evening. | Page 320 lines 24-26. | Subsequently, the subscriber might play back the recorded programming and view said programming on TV monitor, 202M, from 10:45 PM to 11:15 PM the same evening. |
| Column 16 lines 45-47. | This time, TV signal decoder, 31, identifies the embedded signals and transfers them to signal processor, 131. | Page 320 lines 27-31. | So playing back and transmitting the recorded programming to monitor, 202M, would cause TV signal decoder, 145, to detect said meter-monitor information and transfer said information, together with appropriate source mark information, to signal processor, 131.... |
| Column 16 lines 47-49. | Prerecorded video cassettes and videodiscs could also contain unique embedded codes that would identify their usage... | Page 321 lines 1-5. | Prerecorded, commercially distributed video and audio tapes, videodiscs, so-called "compact discs" of audio, and so-called "CD ROM" discs of data can also contain unique codes, embedded in the prerecorded programming, that identify the use and usage of said programming.... |
| Column 16 lines 49-50. | ...(and could also transfer instructions to other external equipment). | Page 476 lines 18-22.<br><br>Page 473 lines 14-17. | ...this method enables any subscriber who records the transmission of said programming at a recorder/player, 217, to access the embedded information of said instructions automatically in this fashion whenever the recorded transmission of said programming is played back....<br><br>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred.... |
| Column 16 lines 51-54. | Signal processor, 130, would probably receive these signals from decoders, 131, 136, 138, 143, 145, 147, 149, and 150) at its buffer/comparator unit, 14 (referring to FIG. 1),... | Page 315 lines 6-10.<br><br>Page 32 lines 24-33. | Fig. 5 shows each decoder as having capacity for transferring monitor information to signal processor, 200, by bus communications means. Said information is received (and processed) at signal processor, 200, by the onboard controller, 14A, ....<br><br>(In circumstances where information collecting and processing functions are extensive--for example, when a given buffer/comparator, 14, must collect monitor information at a subscriber station with apparatus and/or communications flows that are extensive and complex--buffer/comparator, 14, may operate under control of a dedicated, so-called "on-board" controller, 14A, at buffer/comparator, 14, which is preprogrammed with appropriate control instructions and is controlled by controller, 20, similarly to the fashion in which controller, 12 |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | | | is controlled by controller, 20.) |
| Column 16 lines 54-56. | …in a predetermined fashion that would permit signal processor, 130, to identify which decoder the individual signals come from… | Page 322 lines 33-35.<br><br>Page 174 lines 4-17.<br><br>Page 178 lines 27-35. | …that the source mark information identifies decoder, 282, rather than decoder, 203.<br><br>Under control of said instructions, said match causes control processor, 39J, … to transfer to said buffer/comparator, 14, header information that identifies a transmission of monitor information then particular decoder-203 information that is the source mark of said decoder, 203,….<br><br>Automatically, said instructions cause onboard controller, 14A, to compare the information at said source-mark-@14A memory, in a predetermined fashion, with particular pre-entered source-identification mark information that onboard controller, 14A, retains in memory associated with its pre-entered signal records of monitor information. A match results with that particular decoder-203 source mark information that is associated with the aforementioned record of the prior programming displayed at monitor, 202M. |
| Column 16 lines 56-57. | …and, in a predetermined fashion, create a signal string… | Page 180 lines 1-3.<br><br>Page 297 line 15. | Then said process-monitor-info instructions cause onboard controller, 14A, to initiate a new monitor record that reflects the new "Wall Street Week" programming.<br><br>…creating a meter record that records the decryption…. |
| Column 16 lines 57-58. | …by appending digital information to the received signal which information might… | Page 180 lines 4-15. | Automatically, said instructions cause onboard controller, 14A, in a predetermined fashion, to delete … except the source mark information associated with said record; to record information of said first named instance of "program unit identification code" information (which is the "program unit identification code" of said "Wall Street Week" program to a particular "program unit identification code" location at said record location; to select particular information located at said SPAM-input- signal-@14A register memory and record information at said record location; to select particular preprogrammed record…. |
| Column 16 lines 59-61. | …identify the individual decoder, 131, 136, 138, 143, 145, 147, 149, or 150 and the time of receipt at signal processor, 130. | Page 181 lines 8-14. | In a predetermined fashion, onboard controller, 14A, also records in a particular monitor record field location at said record location a particular display unit identification code that identifies monitor, 202M, as the display apparatus of said new monitor record. In a predetermined fashion, signal processor, 200, records date and time information received from clock, 18, in first and last particular time field… |
| Column 16 lines 61-62. | To minimize the use of data recorder, 16, | Page 323 lines 24-26. | In the preferred embodiment, to minimize unnecessary |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | buffer/comparator, 14,… | | duplication, prior to retaining monitor information in signal records, onboard controller, 14A, is preprogrammed to…. |
| Column 16 lines 62-64. | …may evaluate signals in a predetermined fashion and discard some signals rather than passing them to the recorder, 16. | Page 180 lines 1-2.<br><br>Page 180 lines 13-15.<br><br>Page 180 lines 20-21. | Then said process-monitor-info instructions cause onboard controller, 14A, to initiate a new monitor record….<br><br>…select particular information located at said SPAM-input-signal-@14A register memory and record information at said record location; to select particular preprogrammed record….<br><br>…finally, to discard all unrecorded information of said 1st monitor information (#3)…. |
| Column 16 lines 64-66. | It may compare each signal from a given source such as decoder, 131, with other signals received earlier from the same source. | Page 178 lines 27-35. | Automatically, said instructions cause onboard controller, 14A, to compare the information at said source-mark-@14A memory, in a predetermined fashion, with particular pre-entered source-identification mark information that onboard controller, 14A, retains in memory associated with its pre-entered signal records of monitor information. A match results with that particular decoder-203 source mark information that is associated with the aforementioned record of the prior programming displayed at monitor, 202M. |
| Column 16 lines 66-67. | It may only count incoming duplicate signals… | Page 32 lines 9-12. | To avoid overloading digital recorder, 16, with duplicate data, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information…. |
| Column 16 lines 67 to column 17 line 1. | …or it may append a time code to the end of the basic signal string formed around the first received signal … | Page 181 lines 12-15. | In a predetermined fashion, signal processor, 200, records date and time information received from clock, 18, in first and last particular time field locations…. |

## XVII. COLUMN 17

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| Column 17 lines 1-4. | …and alter this time designation each time a new duplicate signal is identified so that the time code identifies the time of receipt of the last duplicate signal. | Page 191 lines 11-21. | …onboard controller, 14A, to locate the instance of "program unit identification code" information at said SPAM-input- signal-@14A register memory, in the fashion described above; to locate the instance of "program unit identification code" information in the aforementioned new monitor record; and to compare said first named instance to said second named instance. A match results. Under control of said process- monitor-info instructions, said match causes onboard controller, 14A, to record date and time information, received from clock, 18, at the aforementioned last particular time field of said new monitor record and, in a …. |
| Column 17 lines 4-6. | Whatever method is used, the buffer/comparator, 14, may | Page 32 lines 9-12. | To avoid overloading digital recorder, 16, with duplicate |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | discard all duplicate signals received. | | data, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information … |
| Column 17 lines 6-9. | At a time when buffer/comparator, 14, determines in a predetermined fashion that it will receive no further duplicate signals, it transfers the full signal string to recorder, 16. | Page 179 lines 14-24. | Automatically, said process- monitor-info instructions cause onboard controller, 14A, in a predetermined fashion, to locate the instance of "program unit identification code" information in said record of the prior programming displayed at monitor, 202M, and to compare said first named instance of "program unit identification code" information to said second named instance. No match results. Not resulting in a match causes onboard controller, 14A, to cause signal processor, 200, to record said said record of prior programming at recorder, 16. |
| Column 17 lines 10-12. | Signal divider, 139, illustrates another type of monitoring that signal processing apparatus and methods can facilitate. | Page 315 lines 25-28. | In Fig. 5, decoder, 203, which is part of the signal processor system of the station of Fig. 5, not only monitors the operation of its associated apparatus, microcomputer, 205, but also controls said apparatus,…. |
| Column 17 lines 12-13. | Signal divider, 139, monitors the use of signals rather than the use of programing. | Page 315 lines 25-30. | In Fig. 5, decoder, 203, which is part of the signal processor system of the station of Fig. 5, not only monitors the operation of its associated apparatus, microcomputer, 205, but also controls said apparatus, in the fashions described above, in the execution of SPAM controlled functions. |
| Column 17 lines 13-16. | Every instruction or information signal transmitted from processor, 140, to microcomputer, 142, is also transmitted to signal processor, 130, … | Page 315 line 30 to 316 line 6. | Decoder, 203, has means for detecting SPAM information in any programming transmission inputted to its associated apparatus, microcomputer, 205, and not only for detecting and transferring to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message of said transmissions but also for inputting selected detected information to microcomputer, 205, and for controlling microcomputer, 205, in selected fashions. (Fig. 5 also shows that decoder, 203, has capacity for inputting detected information to signal processor, 200, and for receiving from and transferring control information to signal processor, 200.) |
| Column 17 lines 16-17. | … to be handled, recorded, and transmitted to a remote site with all other monitor information. | Page 28 lines 25-35 | [Signal processor … 200 in Fig. 7 … and elsewhere] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | | | transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage. |
| Column 17 lines 17-21. | In a predetermined fashion, signal processor, 130, identifies and marks the source of signals as coming from a device, 139, monitoring signal usage rather than programing usage and viewership. | Page 322 lines 19-26.<br><br>Page 174 lines 4-23. | For example, in the case of the "Wall Street Week" program, transmitting the first and second SPAM messages of example #3 (which are not encrypted) will cause not only decoder, 203, to process the meter-monitor information of said messages and transmit the aforementioned 1st monitor information (#3) and 2nd monitor information (#3), via the monitor information bus means of Fig. 5, to onboard controller, 14A.<br><br>Under control of said instructions, said match causes control processor, 39J, … to transfer to said buffer/comparator, 14, header information that identifies a transmission of monitor information then particular decoder-203 information that is the source mark of said decoder, 203, … then all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; … (Said received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1st monitor information (#3).") |
| Column 17 lines 21-24. | In this fashion, besides facilitating data gathering on how programing is used, signal processing apparatus and methods also permit the evaluation of how equipment is used. | Page 312 lines 33-35. | Fig. 5 illustrates means and methods for monitoring receiver station reception and use of programming and **modes of receiver station operation** and exemplifies one embodiment… |
| Column 17 lines 28-33. | …control information connections between signal processor, 130, and the remote decoders which would permit signal decoder, 130, to alter the methods of operation of said remote decoders. Such control information connections are included in signal processing apparatus and methods.) | Page 318 lines 2-7. | By such bus means, onboard controller, 14A, can cause any on or all of said decoders to commence or cease processing and transmitting SPAM monitor information and can cause any one or all of said decoders to change the location or locations that are searched for SPAM information. Fig. 5 shows that, … |
| Column 17 lines 34-36. | **Methods for Governing or Influencing the Operation of Equipment that is External to Conventional Television and Radio Sets by** | Page 390 line 13. | **Automating Ultimate Receiver Stations** |
| Column 17 lines 36-38. | **Passing Instruction and Information Signals that are Embedded in Television and Radio Programing Transmissions to Such External Equipment** | Page 390 line 13 to page 556 line 32. | *See generally.* |
| Column 17 lines 39-41. | Signal processor apparatus have the ability to identify | Page 15 lines 16-23. | The frequencies may convey television, radio, or other |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | instruction and information signals in one or more inputted television and radio programing transmissions,… | | programming transmissions….The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; …. |
| Column 17 lines 42-43. | …identify and discriminate among one or more pieces of external equipment … | Page 34 lines 24-26. | … identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus…. |
| Column 17 line 43. | … to which such signals are addressed, … | Page 44 lines 14-15. | A command is an instance of signal information that is addressed to particular subscriber station apparatus…. |
| Column 17 line 44. | … and transfer such signals to such equipment as directed. | Page 95 lines 18-21. | Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to … and to transfer said message to … |
| Column 17 lines 45-46. | This permits many valuable techniques for facilitating the operation of such external equipment. | Page 390 lines 26-29. | The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ultimate receiver stations in varieties of ways. |
| Column 17 lines 47-49. | FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. | Page 390 lines 30-35. | Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons. |
| Column 17 lines 49-53. | Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit. | Page 396 lines 8-10. | Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples. |
| Column 17 line 54. | **Governing the Home or Office Environment** | *See generally* page 396 line 30 to page 406 line 31. (Page 396 line 30 quoted herein.) | **Automating U. R. Stations … Regulating Station Environment** |
| Column 17 lines 55-56. | FIG 6A illustrates a method for governing a home or office environment. | Page 396 lines 31-33. | Fig. 7A illustrates methods for regulating automatically the environment of subscriber stations such as homes and offices. |
| Column 17 lines 56-62. | One or more channels of television programing transmissions inputted to signal processor, 200, and cable converter box, 201, may contain signals intended for microcomputer, 205, which signals convey information on local weather conditions. Such signals might include current outside temperature and barametric readings. They might include forecast data. | Page 396 line 33 to page 397 line 4. | Particular SPAM regulating messages are embedded in one or more television program channels that are inputted to signal processor, 200, and cable converter box, 201. Said messages include weather bulletin messages that convey local weather information and instructions, including, for example, current outside temperature information, barometric readings, and forecast data. |
| Column 17 lines 62-64. | Signal processor, 200, is always operating and monitors all incoming channels. | Page 397 lines 17-20. | Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above;…. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| Column 17 lines 64-65. | It can convey such signals to microcomputer, 205, whenever it receives them. | Page 397 lines 22-26. | …and is preprogrammed at the controller, 39, of its decoder, 30, and at its controller, 12, to transfer to the decoder, 203, of the microcomputer, 205, of its station any detected SPAM message with an instance of particular URS-205 execution segment information… |
| Column 17 line 65 to Column 18 line 1. | TV signal decoder, 203, can also identify such signals but only in the one TV channel transferred by box, 201, to TV set, 202, and then only when TV set, 202, is on and operating. | Page 401 lines 19-23. | (TV signal decoder, 203, has capacity, itself, to detect said …SPAM message but only when TV set, 202, is on and operating and when the frequency of said master channel is the one TV channel transferred by box, 201, to TV set, 202. |

**XVIII. COLUMN 18**

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| Column 18 lines 1-2. | Decoder, 203, transfers all received signals to processor or monitor, 204, … | Page 400 lines 3-4<br><br>Page 35 lines 11-15<br><br>Page 35 lines 24-27<br><br>Page 35 lines 28-31 | Receiving said Weather-Bulletin-125 SPAM message causes decoder, 203, to …<br><br>… the overall video transmission and passes said information to a digital detector, 34, which acts to detect the digital signal information embedded in said information, using standard detection techniques well known in the art, and inputs detected signal information to controller, 39, which…<br><br>… said audio information that is of interest. The digital detector, 37, detects signal information embedded in said audio information and inputs detected signal information to controller, 39.<br><br>… separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal and inputs detected signal information to controller, 39. |
| Column 18 lines 2-4 | … which identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205. | Page 400 lines 6 – 18 See Fig. 3A regarding the composition of controller 39 | Automatically, control processor, 39J, executes particular preprogrammed Weather-Bulletin controlled function instructions that cause said control processor, 39J, to locate the Weather-Bulletin-125 identification information of said message; to determine that said information does not match particular information at particular last-weather- bulletin-identification RAM associated with said control processor, 39J; to input the information of the information segment of said message to the CPU of microcomputer, 205; to retain information of said Weather-Bulletin-125 identification information at said last-weather-bulletin-identification RAM; and to cause said CPU to execute the information so inputted |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | | | as a machine language job. |
| | | Page 37 line 28 to page 38 line 8 | Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed … to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; … to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. |
| Column 18 lines 4-7. | Microcomputer, 205, uses such received signals, in a predetermined fashion, to govern the operation of furnace, 206, air conditioning system, 207, and window opening and closing means, 208. | Page 400 lines 19-22. | So executing said information causes microcomputer, 205, to reducing the power usage of said air conditioning system, 207, causes any open windows at said station to be closed. |
| | | Page 401 lines 14-17. | In this fashion, SPAM messages can control and regulate the operation of individual subscriber station controlled apparatus (the thermostat control of furnace, 206, for example, could be similarly controlled) …. |
| Column 18 line 8. | **Co-ordinating a Stereo Simulcast** | *See generally* page 406 line 33 to page 419 line 31. (Page 406 line 33 quoted herein.) | **Automating U. R. Stations … Coordinating a Stereo Simulcast** |
| Column 18 lines 9-11. | FIG. 6B illustrates a method for automatic co- ordination of a multimedia presentation in one place, in this case a stereo simulcast. | Page 406 lines 34-35. | Fig. 7B illustrates automatic control of one kind of combined medium presentation--a stereo simulcast. |
| Column 18 lines 11-13. | A person decides to watch a program on television that is stereo simulcast on a local radio station, too. | Page 407 lines 9-11. | At the station of Fig. 7 and 7B, a subscriber decides to watch a particular television program the audio of which is stereo simulcast on a local radio station, …. |
| Column 18 lines 13-14. | The person turns on television, 202, and tunes to the proper channel. | Page 407 lines 12-15. | Said subscriber switches power on to TV set, 202, and manually selects the proper channel, which is, for example, channel 13, at the television tuner, 215, of said set, 202,…. |
| Column 18 lines 14-17. | TV signal decoder, 203, detects signals in the programing transmission on the channel which signals it transfers to monitor or processor, 204. | Page 408 lines 18-29. | Periodically thereafter, said program originating studio embeds in said transmission and transmits a particular Tune-Radio-to-FM-104.1 SPAM message that consists of a "01" header, an execution segment of particular activate-simulcast information that is addressed to URS radio decoders, 210, a meter-monitor segment that contains the "program unit identification code" information of said particular television program, appropriate padding bits, an |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | | | information segment that contains particular 104.1-MHz information, and an end of file signal.<br>Said message is detected at said decoder, 203, and inputted to said controller, 39, .... |
| Column 18 lines 17-19. | Monitor or processor, **204**, determines that certain signals are addressed to switch, **212**, and transfers these signals to switch, **212**. | Page 408 lines 31-34.<br><br>Page 95 lines 18-24. | Receiving said message causes said controller, 39, to execute particular preprogrammed controlled function instructions that cause said controller, 39, to transfer said message to the radio decoder, 210, of radio, 209.<br><br>Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to ... , and to transfer said message to .... So transferring said message is the controlled function that the information said header and execution segment cause controller, 39, to perform. |
| Column 18 lines 19-22. | These signals instruct switch, **212**, to turn power on to radio, **209**, and its associated equipment, including a conventional digital tuner, **213**. | Page 410 lines 10-11. | Receiving said SPAM message causes said controller, 44, switch power on to ... radio, 209,.... |
| Column 18 lines 22-24. | Monitor or processor, **204**, also identifies signals addressed to tuner, **213**, which it transfers accordingly. | Page 408 lines 31-34.<br><br>Page 95 lines 18-24. | Receiving said message causes said controller, 39, to execute particular preprogrammed controlled function instructions that cause said controller, 39, to transfer said message to the radio decoder, 210, of radio, 209.<br><br>Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to ... , and to transfer said message to .... So transferring said message is the controlled function that the information said header and execution segment cause controller, 39, to perform. |
| Column 18 lines 24-25. | These signals instruct tuner, **213**, to tune radio, **209**, to the proper frequency for the simulcast. | Page 410 lines 10-11. | Receiving said SPAM message causes said controller, 44, ... to ... tune radio, 209, to the frequency,.... |
| Column 18 lines 26-28. | Automatically, by turning TV set, **202**, to the channel with a stereo simulcast, the person has activated the stereo simulcast. | Page 411 lines 6-9. | Thus switching power on to TV set, 202, and selecting channel 13 at television tuner, 215, are the only manual steps necessary to actuate the radio simulcast of said channel at radio, 209. |
| Column 18 lines 29-30. | FIG. **6B** also shows signal processor, **200**, monitoring for a data gathering and ratings service. | Page 411 lines 10-11<br><br>Page 88 lines 19-22. | In addition, because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, ...<br><br>... monitor information is processed at selected stations for one or more so-called "ratings" agencies (such as the A. C. Nielsen Company) that collect statistics on viewership and programming usage. |
| Column 18 lines 30-35. | TV signal decoder, **203**, and radio signal decoder, **211**, also | Page 408 lines 18-29 | Periodically thereafter, said program originating studio |

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|---|---|---|---|
| | identify certain signals that monitors or processors, **204** and **210** respectively, determine to identify the programs, etc. on the channels to which TV set, **202**, and radio, **209**, are tuned, | | embeds in said transmission and transmits a … message that consists of … a meter-monitor segment that contains the "program unit identification code" information of said particular television program, … Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above escribed fashion. |
| | | Page 414 lines 13-27 | Periodically thereafter, said program originating studio embeds in said transmission and transmits a … message that consists of … a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission … Said message is detected at said decoder, 210, and inputted to said controller, 44. |
| | | Page 15 lines 16-22 | The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions … |
| | | Page 411 lines 10-15 | … because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said … message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above. |
| | | Page 418 line 23 to page 419 line 15. | Because the information of said … message is transmitted periodically in said radio programming transmission, a subsequent instance of said information … causes the SPAM decoder apparatus … to transfer to the onboard controller, 14A, of signal processor, 200, … a particular third transmission of monitor information containing … "program unit identification code" information of the audio program unit of said radio transmission. |
| Column 18 lines 35-36. | The processors, **204** and **210**, transfer this information to signal processor, **200**, … | Page 411 lines 10-15. | … because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said … message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | Page 418 line 23 to page 419 line 31 | Because the information of said … message is transmitted periodically in said radio programming transmission, a subsequent instance of said information … causes the SPAM decoder apparatus … to transfer to the onboard controller, 14A, of signal processor, 200,… a particular third transmission of monitor information containing … "program unit identification code" information of the audio program unit of said radio transmission. |
| | | Page 36 lines 32-33. | Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities. |
| | | Page 38 lines 11-14. | Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus. |
| | | Page 173 line 30 to page 174 line 23. | The station of Fig. 3 is preprogrammed to collect monitor information, … Under control of said instructions, said match causes control processor, 39J, … to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, … to transfer to said buffer/comparator, 14, … all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; … (Said received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1st monitor information (#3).") |
| Column 18 lines 36-37. | …for recording and subsequent transmission to a remote data collection site. | Page 411 line 28 to page 412 line 2. | In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, … that is based on the "program unit identification code" information of said particular television program in |
| | | Page 419 lines 4-15. | In the fashion described above, receiving said third transmission of monitor information … causes said onboard controller, 14A, to initiate a third signal record, … that is based on the aforementioned secondary "program unit |

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| | | Page 28 lines 25-35. | identification code" information of the audio program unit of said radio transmission.<br><br>[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring … said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage. |
| Column 18 lines 38-41. | Simultaneously, processor, **200**, is also monitoring sequentially all other broadcast transmissions in the locality to gather further data on programing availability to record and transmit to a remote site. | Page 28 lines 25-35.<br><br>Page 397 lines 17-20. | [Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring … said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.<br><br>Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above; is preprogrammed at its controller, 20, to … |
| Column 18 line 42. | **Receiving Selected Information and/or Programing.** | *See generally* page 419 line 33 to page 447 line 23. (Page 419 line 33 quoted herein.) | **Automating U. R. Stations … Receiving Selected Programming** |
| Column 18 lines 43-45. | Figure **6C** illustrates methods for monitoring multiple programing channels and selecting programing and information in a predetermined fashion. | Page 419 line 34 to Page 420 line 2. | Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information. |
| Column 18 lines 45-47. | In this example, microprocessor, **205**, is programed to hold a portfolio of stocks… | Page 420 lines 3-4. | The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks… |
| Column 18 lines 47-48. | …and to receive news about these particular stocks and about the industries they are in. | Page 420 lines 5-6. | …and to receive and process automatically news items about said stocks and about the industries of said stocks. |
| Column 18 lines 48-51. | Several separate news services transmit news on different channels carried on the multi- channel cable transmission to converter boxes, **222** and **201**, and to signal processor, **200**. | Page 420 lines 21-29. | Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200. |
| Column 18 lines 52-55. | The news services preceed each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries. | Page 420 line 32 to page 421 line 17. | Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit-News-Item SPAM message ...<br>In due course, said remote news-service-A station transmits a particular AT&T news item in a particular Transmit-AT&T-News-Item message that is in said Transmit- News-Item SPAM message format and that consists of ... the "program unit identification code" information of said AT&T news item and subject matter information of said binary information of **"T"**, appropriate padding bits, an information segment that contains **said AT&T news item,** and an end of file signal. |
| Column 18 lines 55-56. | In a predetermined fashion, microcomputer, **205**, instructs... | Page 288 lines 13-20. | As Fig. 4 shows, ...in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205. |
| Column 18 lines 56-58. | ...signal processor, **200**, to hold examples of the sought for unique signals in its buffer/ comparator, **8**, and compare them with all incoming signals. | Page 420 lines 6-20.<br><br>Page 422 lines 33 to Page 423 line 4. | The signal processor, 200, of said station is preprogrammed ... with particular news- items-of-interest information that includes identification information of the particular stocks in said portfolio....<br>One company whose stock is preprogrammed at said microprocessor, 205, is the American Telephone and Telegraph Company whose stock is identified by particular binary information of "T". And among the news-items-of-interest information at said RAM is an instance of said binary information of "T".<br><br>...said controller, 39, to load the binary information of **"T"** ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of **"T"** that is among the news-items-of-interest information.... |
| Column 18 lines 58-59. | Signal processor, **200**, scans sequentially all channels. | Page 422 lines 23-25. | At the station of Fig. 7 and 7C, signal processor, 200, scans sequentially all channels at its switch, 1, mixer, 3, and decoder, 30, in the fashion of example #5. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| Column 18 lines 59-62. | When it identifies a signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, **205**. | Page 422 line 33 to Page 423 line 10. | ...cause said controller, 39, to load the binary information of **"T"** ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of **"T"** that is among the news-items-of-interest information ... Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5. |
| Column 18 lines 62-65. | In a predetermined fashion, either microcomputer, **205**, or signal processor, **200**, instructs tuner, **223**, to set cable converter box, **222**, to the proper channel,... | Page 423 lines 11-13.<br><br>Page 424 lines 2-9. | Receiving said message causes said controller, 20, to cause a selected cable converter box, 222, to receive the transmission identified by said channel mark; .....<br><br>Then receiving a particular to-223 instruction from said control processor, 20A, causes controller, 20, to transmits particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated cable converter box, 222, the to the particular channel transmission of said multi-channel cable transmission that is identified by said channel mark. |
| Column 18 lines 65-67. | ...and microcomputer, **200**, may record the information in memory or transfer it to printer, **221**, for printing .... | Page 426 lines 10-18. | Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.) |

**XIX. COLUMN 19**

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| Column 19 lines 1-4. | In the same fashion, microcomputer, **205**, may also instruct signal processor, **200**, to monitor single or multiple television channels and/or radio channels for programing of interest to play or record. | Page 419 line 34 to page 420 line 2.<br><br>Page 11 lines 5-10. | Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information.<br><br>The present invention consists of an integrated system of methods and apparatus for communicating programming. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | | | The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming. |
| Column 19 lines 5-8. | In another example, microcomputer, **205** may be preinformed that a certain television program, hypothetically "Wall Street Week," should be televised on TV set, **202**, when it is cablecast. | Page 428 lines 21-26. | The program-unit-of-interest information preprogrammed at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular specific-WSW information that reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. |
| Column 19 lines 8-9. | Microcomputer, **205**, is preinformed of the time of cablecasting. | Page 437 lines 1-3. | Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20. |
| Column 19 lines 9-12. | When that time comes, microcomputer, **205**, receives no program identification signals whatever from TV signal decoder, **203**, which indicates that the set, **202**, is not on. | Page 444 lines 33-34. | …decoder, 145, to determine, in a predetermined fashion, that power is not on to monitor, 202M, and to respond by…. |
| Column 19 lines 12-13. | Microcomputer, **205**, instructs signal processor, **200**, to… | Page 288 lines 13-20.<br><br>Page 445 lines 8-10. | As Fig. 4 shows, …in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.<br><br>… cause microcomputer, 205, to input particular preprogrammed instructions to said controller, 20, … |
| Column 19 lines 14-15. | …pass all program and channel identifiers on all programing being cablecast on the multi-channel system. | Page 435 lines 16-18.<br><br>Page 248 lines 22-26.<br><br>Page 250 lines 13-16.<br><br>Page 252 lines 15-35. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C….<br><br>Via a conventional multi- channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.<br><br>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program …<br><br>Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | 39J, to transmit a message that consists of … execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment segment) then meter-monitor segment information that includes the **"program unit identification code"** and subject matter information of said first command and **the channel mark of cable channel 13** … (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, … |
| | | Page 267 lines 20-28. | All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) |
| Column 19 lines 15-18. | Signal processor, **200**, receives this instruction from microcomputer, **205**, at its processor or monitor, **12**, which reacts,… | Page 288 lines 16-20. | …microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205. |
| Column 19 lines 18-20. | …in a predetermined fashion by passing also externally to microcomputer, **205**, all signals that it passes to buffer/ comparator, **14**. | Page 435 lines 16-18. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, … |
| | | Page 267 lines 20-28. | All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | can guide station control apparatus to desired programming.) |
| | | Page 435 lines 16-25. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 …<br>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station. |
| Column 19 lines 20-23. | Analyzing these identifier signals in a predetermined fashion, microcomputer, **205**, determines that "Wall Street Week" is being televised on channel X. | Page 267 lines 20-28. | All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) By contrast, the… |
| | | Page 435 lines 16-25. | In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 …<br>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station. |
| | | Page 436 line 9 to page 437 line 3. | Receiving said Select-WSW-Program-Unit message causes decoder, 203, … to input … the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.<br>Executing said determine-whether-to-select instructions causes microcomputer, 205, to… Said instructions contain one instance, and … program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | a second instance of specific-WSW information, *which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.* Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and **determines a match** with said second instance.<br>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. |
| | | Page 439 lines 14-15. | …to receive the transmission of cable channel 13;… |
| Column 19 lines 23-24. | Then, in a predetermined fashion, microcomputer, **205**, may… | Page 437 lines 1-6. | Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.<br>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus … |
| | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13;…. |
| Column 19 lines 24-25. | …instruct tuner, **214**, to switch box, **201**, to channel X… | Page 295 lines 6-8. | Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its… |
| | | Page 439 lines 9-15. | …to cause selected apparatus of said station--cable converter box, 201, … to receive the transmission of cable channel 13;…. |
| Column 19 lines 25-27. | …and may instruct control system, **220**, to turn video recorder, **217**, on and record "Wall Street Week,"… | Page 445 lines 24-27. | …instructions causes controller, 20, …; to switch power on to video recorder/player, 217,…. |
| | | Page 446 lines 18-23. | …controller, 20, … causes recorder/player, 217, to record said information of the "Wall Street Week" program. |
| Column 19 lines 27-28. | …and also microcomputer, **205**, may instruct switch, **216**, to turn TV set, **202**, on | Page 445 line 24 to page 446 line 1. | …instructions causes controller, 20, to switch power on to monitor, 202M, … Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M,…. |
| Column 19 lines 28-29. | and tuner, **215**, to tune appropriately to "Wall Street Week." | Page 445 line 35 to page 446 line 1. | …and to tune monitor, 202M, in a predetermined fashion. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | Page 446 lines 17-21. | In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio…. |
| Column 19 line 30. | **Co-ordinating Multimedia Presentations in Time** | *See generally* page 447 line 25 to page 457 line 10. | **Controlling Computer-based Combined Media Operations** |
| Column 19 lines 31-34. | FIG **6C** can also illustrate how programing delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place. | Page 18 lines 24-27.<br><br>page 450 line 27 to page 451 line 11. | Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations.<br><br>(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.)<br>Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed.<br>But the combining of Fig. 1C is just part of a larger process.<br>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first. |
| Column 19 lines 35-37. | Each weekday, microcomputer, **205**, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day. | Page 449 lines 13-26. | Each weekday after 4:30 PM, a remote stock-price-data-transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | | | their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.) |
| Column 19 lines 37-39. | It may receive these directly or it may automatically query a data service for them in a predetermined fashion. | Page 449 lines 26-35. | Alternatively, microcomputer, 205, is caused in a predetermined fashion (for example, by a SPAM message a given transmission monitored by signal processor, 200, in any of the above described fashions) automatically to telephone a remote data service computer, by means of network, 262, in a fashion well known in the art, and to cause said remote computer to select and transmit the particular closing price datum or data of the stock or stocks of the portfolio of said microcomputer, 205, thereby causing said microcomputer, 205, to record said datum or data in a predetermined fashion. |
| Column 19 lines 39-41. | It records those prices that relate to the stocks in its stored portfolio. | Page 449 lines 13-20. | Each weekday after 4:30 PM, a remote stock-price-data-transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. |
| Column 19 lines 42-43. | Microcomputer, **205**, is preprogramed to respond in a predetermined fashion to… | Page 450 lines 31-32.<br><br>Page 21 lines 20-23. | …caused his microcomputer, 205, to be preprogrammed as described above;….<br><br>Microcomputer, 205, is preprogrammed to … respond … to … |
| Column 19 lines 43-44. | …instruction signals embedded in the "Wall Street Week" programing transmission. | Page 21 lines 23-24. | … instruction signals embedded in the "Wall Street Week" programming transmission. |
| Column 19 lines 45-46. | When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening,… | Page 451 lines 6-7. | When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, … |
| Column 19 lines 46-48. | …several instruction signals are identified by decoder, **203**, and transferred to microcomputer, **205**. | Page 23 line 35 to page 24 line 4.<br><br>Page 37 line 26 to page 38 line 8 | Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.<br><br>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed … to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| | | | information should be transferred; and to transfer said signals to said apparatus. |
| Column 19 lines 48-53. | These signals instruct microcomputer, **205**, to generate several graphic video overlays, which microcomputer, **205**, has the means to generate and transmit and TV set, **202**, has the means to receive and display, and to transmit these overlays to TV set, **202**,... | Page 24 lines 5-16.<br><br>Page 451 lines 7-11. | Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set."<br><br>...the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first. |
| Column 19 line 53. | ...upon command. | Page 26 lines 20-28. | (Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.) |
| Column 19 line 53-56. | Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured. | Page 25 lines 26-33. | During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M. |
| Column 19 lines 56-59. | The host then says, "Here is what the broader NASDAQ index did in the week past," and a studio generated graphic overlay is displayed on top of the first graphic. | Page 451 lines 25-32. | For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio—eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| Column 19 lines 59-60. | Then the host says, "And here is what your portfolio did." | Page 25 lines 33-34. | Then the host says, "And here is what your portfolio did." |
| Column 19 lines 60-62. | At this point, an instruction signal is generated in the television studio originating the programing … | Page 25 line 34-36. | At this point, an instruction signal is generated at said program originating studio,…. |
| Column 19 lines 62-63 | … and is transmitted in the programing transmission. | Page 25 line 35 to page 26 line 1. | … embedded in the programming transmission, and transmitted. |
| Column 19 lines 63-64. | This signal is identified by decoder, **203**, and transferred via processor, **204**, to microcomputer, **205**. | Page 26 lines 1-2.<br><br>Page 37 line 26 to page 38 line 8. | Said signal is identified by decoder, 203; transferred to microcomputer, 205; and …<br><br>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed … to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. |
| Column 19 lines 64-66. | This signal instructs microcomputer, **205**, to transmit the first overlay to TV set, **202**,… | Page 26 lines 1-8. | Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. |
| Column 19 lines 67 to column 20 line 2. | The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic. | Page 451 line 3.<br><br>Page 26 lines 8-11. | And the Fig. 1C combining is displayed.<br><br>TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. |

**XX. COLUMN 20**

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| Column 20 line 2-5. | When the two studio generated graphics are no longer displayed, the studio stops sending the instruction signal, and the microcomputer, **205**, ceases transmitting its own graphic to TV set, **202**, | Page 26 line 33 to page 27 line 7. | As the program proceeds, in the same fashion a further instruction signal is generated at said studio; transmitted; detected; inputted from decoder, 203, to microcomputer, 205; and executed as "GRAPHICS OFF." Then said studio ceases transmitting the graphic image, and transmits another image such as the host's talking head. Simultaneously, the GRAPHICS OFF command causes microcomputer, 205, to cease overlaying the graphic information onto the received composite video and to commence transmitting the received composite video transmission unmodified. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| Column 20 line 5-7. | and prepares to send the next locally generated graphic overlay upon instruction from the originating studio. | Page 27 lines 7-9. | Thereafter the "Wall Street Week" program proceeds, and microcomputer, 205, continues to operate under control of received instructions. |
| Column 20 line 8-10. | This is only one of many examples of the co-ordination at one time and in one place of programing and information material delivered at different times. | Page 27 line 34 to page 28 line 3. | This "Wall Street Week" portfolio performance example provides but one of many examples of television based combined medium programming.<br>This television based combined medium is but one example of many combined media. |
| Column 20 line 11. | Co-ordinating Print and Video | Generally, page 469 line 1 to page 516 line 13. | *Length of passage precludes inclusion here.* |
| Column 20 lines 12-15. | Figure **6D** illustrates one method for co-ordinating the presentation of information through the use of print with video. Figure **6D** also illustrates possible uses of a decrypter and a local input. | Page 469 lines 3-6. | Fig. 7F illustrates a method for generating and communicating information to selected subscribers through the coordination of computers, television, and broadcast print. Fig. 7F also illustrates use of a local input, 225. |
| Column 20 lines 16-23. | Suppose a viewer watches a television program on cooking techniques that is received on TV set, **202**, via box, **201**. Julia Childs's "The French Chef" is one such program. Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input." | Page 469 lines 7-8. | The microcomputer, 205, of the station of Fig. 7 and 7F, is preprogrammed to receive and process automatically.... |
| Column 20 lines 23-27. | The viewer then presses buttons 567 on local input, **225**, which signal is conveyed to the buffer/comparator, **8** (referring to Fig. **1**), of signal processor, **200**, to hold and process further in a predetermined fashion. | Page 471 lines 14-21. | Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, said second subscriber, and said third subscriber--enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station. |
| Column 20 lines 27-30. | Five minutes later, a signal is identified in the incoming programing on TV set, **202**, by decoder, **203**, which is also transferred by processor, **204**, to buffer/comparator, **8**, of signal processor, **200**. | Page 471 line 26 to page 472 line 4. | Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of an "01" header, particular execution segment information that is addressed to URS signal processors, 200, appropriate meter-monitor information, padding bits as required, an information segment of particular check-for-entered-information-and-process instructions, and an end of file signal.<br>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| Column 20 lines 31-33. | This signal instructs buffer/comparator, **8**, that, if 567 has been received from signal generator, **225**, signal processor, **200**, | Page 472 lines 13-23. | Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory and to cause an instance of particular covert control information (which is preprogrammed in said instructions) to be placed at particular control- function-invoking information memory of the controller, 39, of decoder, 145, and also at particular control-function- invoking information memory of the controller, 39, of decoder, 203. |
| Column 20 lines 33-37. | should, in a predetermined fashion, instruct tuner, **223**, to tune cable converter box, **222**, to the appropriate channel to receive the recipe in encoded digital form and instruct control means, **226**, to activate printer, **221**. | Page 477 lines 8-23. | In this alternate method, executing said check-for-entered-information-and-process instructions of said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission and the appropriate detector and EOFS valve, 39F, to commence detecting an end of file signal; and to cause an instance of particular covert control information that is in said instruction to be placed at particular control-function- invoking information memory of the controller, 39, of said decoder, 290. |
| Column 20 lines 37-42. | The signal transmission from processor, **204**, also passes a signal word to signal processor, **200**, which, in a predetermined fashion, signal processor, **200**, decrypts and transfers to decrypter, **224**, to serve as the code upon which decrypter, **224**, will decrypt the incoming encrypted recipe. | Page 478 lines 1-5. | (Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.) |
| Column 20 lines 42-46. | Then, as part of the predetermined operation, signal processor, **200**, conveys to its data recorder, **16**, information that the 567 order was placed by the viewer and all necessary equipment was enabled. | Page 472 lines 23-27. | Executing said instructions also causes controller, 20, to initiate a particular signal record of meter information at the buffer, 14, of signal processor, 200, which record contains particular program unit information and TV567# information. |
| Column 20 lines 46-48. | When the transmission of the recipe is received, box **222**, transfers the transmission to decrypter, **224**, for decryption | Page 473 lines 14-18<br><br>& lines 29-31. | At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 39, of decoder, 203.<br><br>Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe-and- shopping-list instructions at microcomputer, 205, .... |
| Column 20 lines 48-49. | and thence to printer, **221**, for printing. | Page 475 lines 1-2. | Receiving said output information causes printer, 221, to print the information of said specific recipe and list. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
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| Column 20 lines 49-54. | Other signal decoder, **227**, identifies a signal in the transmission received by printer, **221**, which it passes via processor, **228**, and buffer/comparator, **14**, of signal processor, **200**, to data recorder, **16**. This signal indicates that the recipe, itself, has been received. | Page 473 line 31 to page 474 line 1. | …shopping-list instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above. |
| Column 20 lines 54-58. | Subsequently, when signal processor, **200**, transfers the data in its data recorder, **16**, via telephone to a remote site, that site can determine for billing purposes that the recipe was, first, ordered and, second, delivered. | Page 510 lines 28-32. | …causes controller, 20, in the fashion described above, to cause auto dialer, 24, to dial the telephone number, 1-(800) 247-8700. Automatically, in the fashion described above, controller, 20, establishes telephone communications with a computer of said super market…. |
| Column 20 lines 59-62. | (An alternate method for transmitting the recipe to printer, **221**, would be for the recipe, itself, to be located in encoded digital form in the programing transmission recieved by TV set, **202**. | Page 476 line 34 to page 477 line 3. | (An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission…. |
| Column 20 lines 62-63. | In this case, decoder, **203**, would identify the signals conveying the recipe | Page 473 lines 14-18. | At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 39, of decoder, 203. |
| Column 20 lines 63-65. | and transfer them via processor, **204**, to signal processor, **200**, which would decrypt them, itself, | Page 478 lines 1-5. | (Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.) |
| Column 20 lines 65-67. | and transfer them, via means which in this case it would have, to printer, **221**). | Page 475 lines 1-2. | Receiving said output information causes printer, 221, to print the information of said specific recipe and list. |

## XXI. COLUMN 21

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| Column 21 lines 1-2. | **Using Signaling and Decryption Techniques to Control Distribution of Copyrighted Materials** | *See generally* page 278 line 22 to page 312 line 30. **Especially,** page 312 lines 12-28.<br><br>*See generally* page 427 line 8 to page 447 line 23.<br><br>*See generally* page 533 line 23 to page 556 line 32. **Especially,** page 548 line 1 to page 549 lines 31. | **Regulating the Reception and Use of Programming** |
| Column 21 lines 3-8. | FIG **6E** illustrates a signaling and decryption technique which | Generally, page 312 | And for example, the transmitted programming may be only |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | could serve to facilitate the electronic distribution of copyrighted materials such as books and movies by tending to discourage piracy and the unauthorized retransmission of copies, whether they be properly acquired or pirated. | lines 12-20.<br><br>Page 306 lines 20-25. | audio (for example, of a radio transmission) or print (for example, of broadcast print) rather than television. And for example, the output apparatus may be speakers or one or more printers rather than a television monitor. And for example, rather than being a transmitter at a remote wireless or cable transmission station, the source of the transmission may be a local apparatus such as a video (or audio or digital information) tape recorder or a laser disc player, ....<br><br>(By causing information that identifies the station at which encrypted information is decrypted to be so inserted, the present invention makes it possible to identify particular stations where their information is misused--for example, if **pirated** decrypted **copies** of information are distributed, the station at which decryption occurred can be identified.... |
| Column 21 lines 9-19. | FIG **6E** could be any home or commercial establishment but is described here as a book store. Using conventional laser videodisc equipment and techniques, well known in the art, a publisher has put his full line of books on laser discs in encrypted form and distributed one copy of each disc to each of his authorized book store retail outlets. He has also distributed to each a conventional computer floppy disk for use on conventional microcomputer, **205**, that can operate conventional laser videodisc system, **232**, in a predetermined fashion to locate and transmit individual titles in his line. | Page 534 lines 13-16.<br><br>Page 548 lines 24-30. | ...Each farmer's laser disc player, 232, is loaded with a so-call "optical disk" on which is recorded a file named "PROPRIET.MOD" that contains encrypted information of a proprietary software module.<br><br>Automatically, under control of its specific received program instruction set, each microcomputer, 205, accesses the file, MY_FARM.DAT, that is prerecorded on the disk loaded at its A: disk drive and also accesses the encrypted "PROPRIET.MOD" file that is prerecorded at the laser disc player, 232, of each farmer's station.... |
| Column 21 lines 20-24. | A customer comes into the book store and asks to buy a title, hypothetically, *How to Grow Grass*. The salesman asks the customer for suitable identification, types into micro-computer, **205**, the customer's name and address and that he wishes to purchase *How to Grow Grass*. | Page 548 lines 1-4. | Receiving the particular first SPAM message of its local intermediate station causes apparatus of the subscriber station of each farmer to execute the contained program instruction set of said message at the microcomputer, 205,.... |
| Column 21 lines 25-26. | Microcomputer, **205**, may check to determine that the customer has no record as a pirate... | Page 549 line 19-21<br><br>Page 16 lines 24-26.<br><br>Page 293 lines 24-35. | Then, in the fashion of example #7, apparatus of each station are caused to decrypt and retain meter information of the decryption of the encrypted information of said file.<br><br>Flexibility must exist for varying techniques that restrict programming to duly authorized subscribers in order to identify and deter pirates....<br><br>A match indicates that said sixteen contiguous bit locations that hold preprogrammed SPAM operating information are preprogrammed with properly. A match occurs at the station of Fig 4. |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | | | (Simultaneously other stations compare information of other selected information of bit locations that contain information of said enable-CC13 instructions with information of other local bit locations that hold preprogrammed SPAM operating information. At each station where a match fails to occur--which suggests that the preprogrammed SPAM operating information of said station has been tampered with in an unauthorized fashion--.... |
| Column 21 lines 26-30. | ...then transfers his name and address to buffer/comparator, **8** (referring to Fig. **1**), of signal processor, **200**, and instructs laser videodisc system, **232**, to transmit its encrypted copy of *How to Grow Grass* to printer or other means, **221**,... | Page 548 lines 25-30. | ...each microcomputer, 205, accesses the file, MY_FARM.DAT, that is prerecorded on the disk loaded at its A: disk drive and also accesses the encrypted "PROPRIET.MOD" file that is prerecorded at the laser disc player, 232, of each farmer's station... |
| Column 21 lines 30-32. | ...via decryptors, **224** and **231**. Laser system, **232**, transmits one copy of the encrypted title to decryptor, **224**, ... | Page 549 line 19-21.<br><br>Page 299 lines 19-22. | Then, in the fashion of example #7, apparatus of each station are caused to decrypt and retain meter information of the decryption of the encrypted information of said file.<br><br>Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, thereby causing said decryptor, 224,.... |
| Column 21 lines 32-34 | ...and one to signal processor, **200**, for processing and evaluation. | Page 297 lines 20-33. | Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, said program originating studio embeds in the audio portion and transmits a particular SPAM message that consists of a "01" header, execution segment information that matches said enable-WSW- programming information, particular meter-monitor information, particular 1st-stage-enable-WSW-program instructions as the information segment information, and an end of file signal. (Hereinafter said message is called the "1st-WSW-program-enabling-message (#7).")<br>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at the digital detector, 38, of decoder, 30, to detect the information of said message and at the control processor, 39J,.... |
| Column 21 lines 35-36. | In the encrypted title, signal processor, **200**, identifies one or more signal words. | Page 297 line 30 to page 298 line 5. | In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at the digital detector, 38, of decoder, 30, to detect the information of said message and at the control processor, 39J, to select the information of the execution segment in said message and determine that said selected information matches the aforementioned instance of enable-WSW-programming |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
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| | | | information at said particular controlled-function-invoking information location. So determining a match causes said control processor, 39J, to execute the aforementioned transfer-this- message-to-controller-20 instructions. |
| Column 21 lines 36-38. | If signal processor, **200**, has the customer's name and address and the bookstore is a retail outlet in good standing… | Page 534 lines 1-8. | Each farmer has a subscriber station that is identical to the station of Fig. 7 except that each station has two television recorder/players that are recorder/players, 217 and 217A; two television tuners, 215 and 215A; and a laser disk player, 232. Particular farm information of the specific farm of each farmer is recorded in a file named MY_FARM.DAT on a disk at the A: disk drive of the microcomputer, 205, of each station. |
| Column 21 lines 38-40. | …that has received from a remote site program information on the predetermined fashions in affect,… | Page 298 lines 10-21. | Receiving the "1st-WSW-program-enabling-message (#7) causes controller, 20, to execute the aforementioned load-and-run-@20 instructions, to load the 1st-stage-enable-WSW- program instructions of the information segment at particular RAM of controller, 20, then to execute the information so loaded as the so-called machine language instructions of one so-called job.<br>Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission. |
| Column 21 lines 40-43. | …signal processor, **200**, decrypts the signal word or words and transfers them to decryptor, **224**, to serve as the code for the first stage of decryption. | Page 299 lines 13-22. | Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224,… |
| Column 21 lines 44-45. | Decryptor, **224**, then decrypts a part of the encrypted transmission… | Page 299 lines 22-27. | …thereby causing said decryptor, 224, to receive the information of said video portion (said information being, as explained above, encrypted digital video), to decrypt said information, and to transfer decrypted information of said video portion to matrix switch, 258. |
| Column 21 lines 45-46. | …and passes the partly decrypted transmission to signal stripper, **229**, and signal generator, **230.** | Page 305 lines 22-32. | …to commence transferring the information inputted from said converter box, 201, to the output that outputs to television tuner, 215; to commence transferring the information inputted from decryptor, 224, to the output that outputs to signal stripper, 229; to commence transferring the |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
|---|---|---|---|
| | | | information inputted from signal stripper, 229, to the output that outputs to signal generator, 230; to commence transferring the information inputted from signal generator, 230, to the output that outputs to decryptor, 231; and to commence transferring the information inputted from decryptor, 231.... |
| Column 21 lines 46-51. | In the decrypted portion of the partially decrypted transmission, signal processor, **200**, identifies a second signal word or set of words which it decrypts in a predetermined fashion and passes to decryptor, **231**, to serve as the code basis for the second stage of decryption. | Page 304 lines 10-11.<br><br>Page 304 line 23 to page 307 line 8. | (Hereinafter, each of said SPAM messages is called a "2nd-WSW-program-enabling-message (#7).")<br><br>Automatically, decryptor, 39K, decrypts the encrypted information of said message and transfers said message to EOFS valve, 39H. Automatically, EOFS valve, 39H, inputs the information of said message, unencrypted, to control processor, 39J, until the end of file signal of said message is detected. Automatically, control processor, 39J, determines that the unencrypted information of the execution segment of said message matches the aforementioned instance of enable-WSW-programming information at said particular controlled-function-invoking information location and executes the aforementioned transfer-this-message-to-controller-20 instructions.<br>Executing said instructions causes the transfer of the remove.) Automatically, controller, 20, selects information of the aforementioned first three of the last four significant digits of the binary information of the aforementioned unique digital code at ROM, 21 and computes a particular Q quantity according to a particular formula that is preprogrammed in said 2nd-stage-enable-WSW-program instructions. ... The information of said Q quantity is the decryption key Aa. |
| Column 21 lines 51-53. | Signal processor, **200**, also may instruct signal stripper, **229**, to remove this second signal word or words. | Page 305 line 34 to page 306 line 4. | Automatically, controller, 20, causes signal stripper, 229, to strip information, in a fashion well known in the art, from a particular strip-designated portion of the video transmission received at said stripper, 229, and transfer the received video, without said stripped information, to matrix switch, 258. |
| Column 21 lines 53-63. | Signal processor, **200**, also passes the customer's name and address and its own unique apparatus identifier code from read only memory, **21**, to signal generator, **230**, which generates a signal embedding the customer's name and address and the retail outlet's identification in the programing in a suitable place or places in a suitable fashion. (Signal processor, **200**, may also transmit the customer's name and address to printer or other means, **221**, for actual printing of | Page 306 lines 11-19. | Automatically, controller, 20, selects complete information of the aforementioned unique digital code at ROM, 21, transmits said complete information to signal generator, 230, and causes said generator, 230, to insert said complete information, in a predetermined periodic fashion and in an inserting fashion well known in the art, into a particular insertion-designated portion of the video transmission received at said generator, 230, and to transfer the received |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
|---|---|---|---|
| | the customer's name and address in the text.) | | video, with said inserted information, to matrix switch, 258. |
| Column 21 lines 63-65. | The transmission then passes through decryptor, **231**, which completes the decryption process… | Page 305 lines 29-31,<br><br>and lines 14-16. | …to commence transferring the information inputted from signal generator, 230, to the output that outputs to decryptor, 231;…<br><br>…and to affect a second and last stage of decrypting the digital video information of the "Wall Street Week" program transmission. |
| Column 21 lines 65-66. | …and passes the decrypted programing transmission to printer or other means, **221**,… | Page 309 line 27 to page 310 line 3.<br><br>Page 312 lines 12-14. | Determining that signal stripper, 229, and that signal generator, 230, are stripping and inserting correctly (after having determined that that decryptors, 224 and 231, are decrypting correctly) causes the controller, 20, of the station of Fig. 4 (and causes controllers, 20, at other stations where so determining occurs) to execute particular additional 2nd-stage-enable-WSW-program instructions, and executing said instructions causes controller, 20, to cause the apparatus of the station of Fig. 4 to commence transferring the decrypted … information … to microcomputer, 205, ….<br><br>And for example, the transmitted programming may be only audio (for example, of a radio transmission) or print (for example, of broadcast print) rather than television. |
| Column 21 lines 66-67. | …and also to signal processor, **200**. | Page 305 lines 31-34. | …and to commence transferring the information inputted from decryptor, 231, to the output that outputs to said third alternate contact of switch, 1. |
| Column 21 line 67 to column 22 line 2. | Signal processor, **200**, receives and analyzes the signal content of the programing output of decrypter, **231** to ensure that stripper, **229**, and and generator, **230**, have functioned properly. | Page 308 lines 13-30. | Receiving said signal causes controller, 20, under control of said 2nd-stage-enable-WSW-program instructions, to cause said control processor, 39J, to transfer to controller, 20, selected information of said check sequence; to compare said selected information to selected information of said 2nd-stage-enable-WSW-program instructions; and to determine that a match results, indicating that decryptors, 224 and 231, are decrypting received information correctly. Determining a match causes controller, 20, to determine, in a predetermined fashion, that signal stripper, 229, is correctly stripping information from the aforementioned strip-designated portion of the video transmission and transferring received video without said stripped information and that signal generator, 230, is correctly inserting complete information of the aforementioned unique digital code into the aforementioned insertion-designated portion of the video transmission and transferring received video with said inserted information. |

## XXII. COLUMN 22

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priorty |
|---|---|---|---|
| Column 22 lines 2-4. | If they have not, signal processor, **200**, shuts down the decryption of the title and prevents its delivery to the customer. | Page 308 line 31 to page 309 line 11. | (Simultaneously other stations compare selected information of said check sequence to selected information of said 2nd-stage-enable-WSW-program instructions and verify the correct functioning of local signal strippers, 229, and generators, 230. At each station where a controller, 20, determines that a match does not result--which indicates that a decryptor, 224 or 231, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with--or determines that a stripper, 229, or a generator, 230, fails to function correctly, so determining match causes said controller, 20, to cause all information of said 2nd-WSW-program-enabling-message (#7) to be erased from all memory of said station except for a particular portion of said 2nd-stage-enable-WSW-program instructions loaded at the RAM of said controller, 20,.... |
| Column 22 line 5 | **The General Case** | *See generally* page 533 line 23 to page 557 line 32. | **A Summary Example #11 ... and the General Case** |
| Column 22 lines 6-15. | It is obvious to one of ordinary skill in the art that the foregoing is presented by way of example only and that the invention is not to be unduly restricted thereby since modifications may be made in the structure of the various parts without functionally departing from the spirit of the invention. FIG **6** should make this clear. The receiver site depicted in FIG **6** has multiple means for receiving programing transmissions. All received programing is analyzed and evaluated by signal processor, **200**. | Page 556 line 33 to page 557 line 32. | It is obvious to one of ordinary skill in the art that the foregoing is presented by way of example only and that the invention is not to be unduly restricted thereby since modifications may be made in the structure of the various parts or in the methods of their functioning without functionally departing from the spirit of the invention. Any SPAM message and any other programming transmission can be caused, through encryption/decryption and other SPAM regulating techniques of the present invention, to take affect fully only selected stations and station apparatus. Because any transmission station can invoke any SPAM controlled function by transmitting a SPAM message with meter-monitor segment information, invoking any given SPAM controlled function can also cause meter information and or monitor information to be processed in the fashions described above at apparatus and stations where said controlled function is invoked. Intermediate transmission stations can be equipped with SPAM regulating capacity such as that illustrated in Fig. 4, monitoring capacity such as that illustrated in Fig. 5, and control information switching |

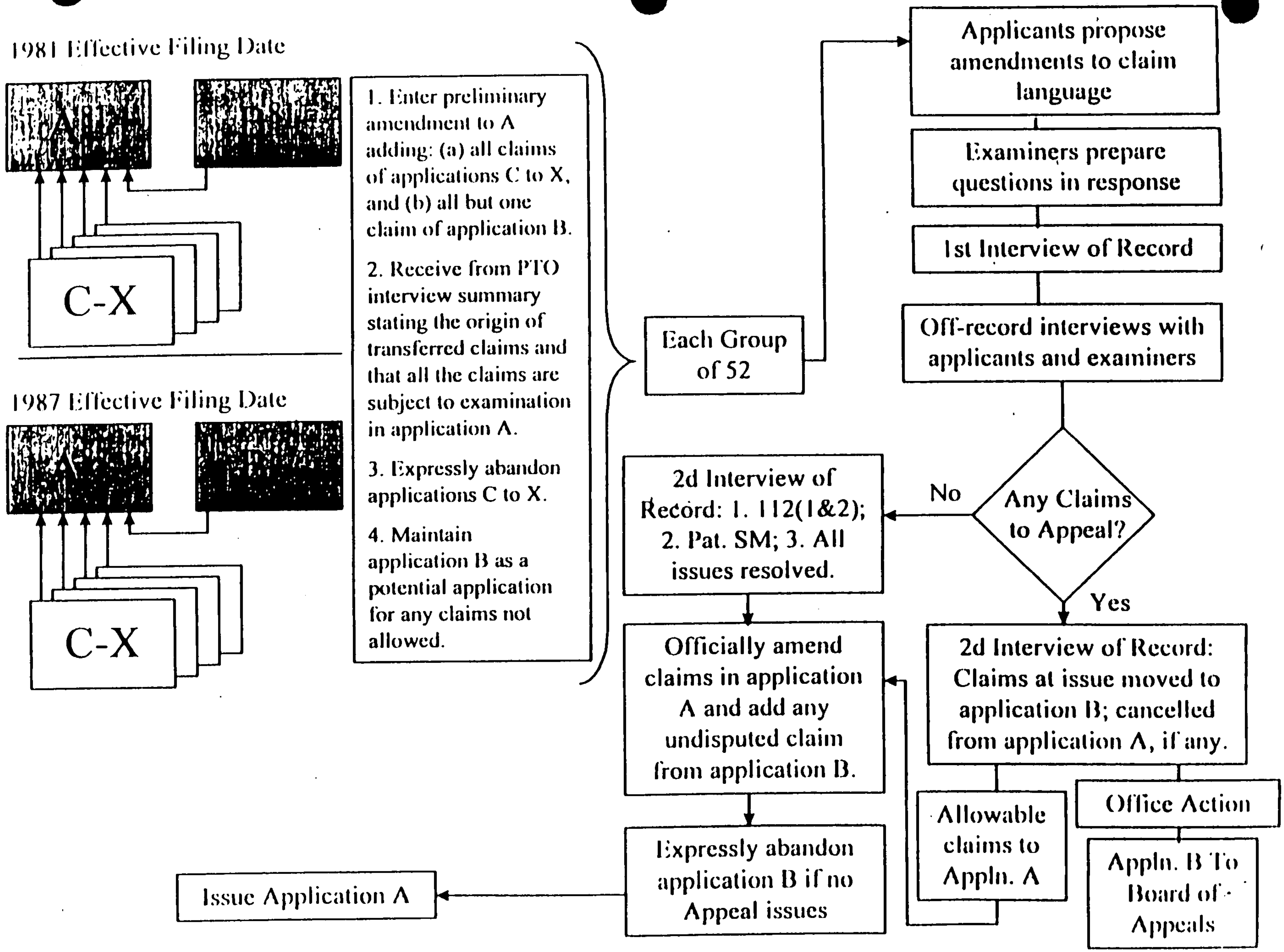
| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
|---|---|---|---|
| | | | and bus communications capacity such as that illustrated in Figs. 7 and 8. Controlling such capacity by means of transmitted SPAM messages, a remote network origination and control station can transmit programming to intermediate transmission stations, regulate and meter the use of said programming at said stations, monitor the use and usage of said programming at said stations, and control communication of control information at said stations all in the fashions that apply above to ultimate receiver stations. And any given transmission station can cause its receiver stations to function automatically not only in the fashions described above in the sections on automating ultimate receiver stations but in any appropriate fashion that a network origination and control station can cause intermediate transmission stations to function automatically. |
| Column 22 lines 15-20. | Working with microcomputer, **205**, which is preprogramed to present received programing in predetermined fashions determined at the receiver site, signal processor, **200**, permits and facilitates such presentations in accordance with the intentions of the suppliers of the programing at remote sites. | Page 428 line 21 to page 429 line 17. | The program-unit-of-interest information preprogrammed at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular specific-WSW information that reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. In a predetermined fashion, said subscriber has caused to be included in said program-unit-of-interest information. (Microcomputers, 205, of selected other stations of said large plurality of stations are also so preprogrammed.) The station-specific-television-program-selection-and-display instructions at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular information that said subscriber will pay up to a certain limit--for example, twenty-five cents--to be permitted to receive said program and that, if the TV set, 202, of said station is switched off when information of the transmission of said program is detected, power should be switched on to said TV set, 202, and said program should be displayed at the monitor, 202M, of said set and, in addition, power should be switched on to the video recorder/player, 217, of said station, and said program should be recorded at said recorder/player, 217.<br>The signal processor, 200, of said station scans sequentially all received television transmission channels in the fashion described above and is preprogrammed at the RAM associated with the control processor, 39J, of its decoder, 30, to respond in a particular controlled function fashion whenever a SPAM message with an execution |

| Parent Spec. References | Parent U.S. Patent No. 4,694,490 - 1981 Priorty | Inst. Spec References | Instant Specification -1987 Priority |
|---|---|---|---|
| | | | segment of particular available-television-program information is detected. Said signal processor, 200, has capacity for actuating and tuning TV set, 202, and video recorder, 217, and for controlling microcomputer, 205. |
| Column 22 lines 20-24. | Working together, signal processor, **200**, and microcomputer, **205**, can control all local equipment and manage local presentations in any fashion feasible given the nature of the local equipment and the programing. | Page 444 line 31 to page 445 line 22. | Automatically, controller, 20, transmits particular information to said decoder, 145, that causes said decoder, 145, to determine, in a predetermined fashion, that power is not on to monitor, 202M, and to respond by transmitting particular 202M-is-not-on information to controller, 20, via said link.<br>The fact that monitor, 202M, is not on signifies that the subscriber of the station of Fig. 7 is not viewing television information at monitor, 202M, and suggests that said subscriber may not even be present at said station.<br>Receiving said 202M-is-not-on information causes controller, 20, under control of said additional 2nd-stage-enable-WSW-program instructions, to cause microcomputer, 205, to input particular preprogrammed instructions to said controller, 20, which instructions reflect the the specific fashion in which said subscribe wants any given selected program to be selected and displayed. Automatically, controller, 20, inputs a particular choose-mode-of-selection-and-display instruction and said 202M-is-not-on information to microcomputer, 205, and receiving said instruction and said information causes microcomputer, 205, in a predetermined fashion, to process the aforementioned station- specific-television-program-selection-and-display instructions. Automatically, under control of said instructions, microcomputer, 205, inputs to controller, 20, particular preprogrammed display-at-202M-and-record-at-217 instructions. |

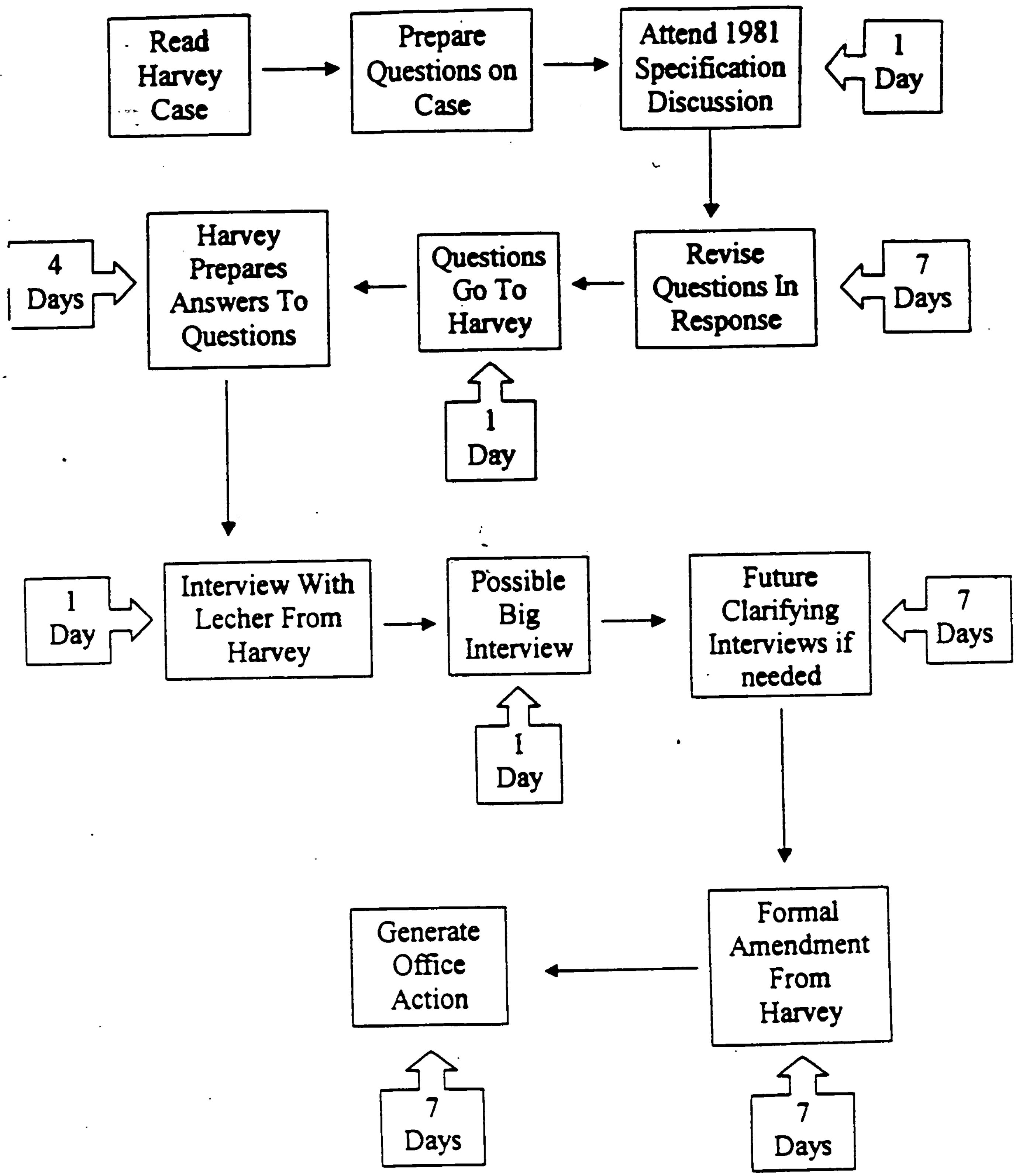
## APPENDIX C

Table of 22 Applications in Which Reference to '81 & '87 Specification Support Was Filed.

| PTO Serial Number | Response filed. |
|---|---|
| 08/470,571 | 7/7/2000 |
| 08/466,894 | 7/19/2000 |
| 08/441,701 | 9/18/2000 |
| 08/477,805 | 9/22/2000 |
| 08/487,851 | 9/22/2000 |
| 08/473,484 | 9/22/2000 |
| 08/397,636 | 9/29/2000 |
| 08/474,964 | 9/29/2000 |
| 08/452,395 | 9/29/2000 |
| 08/485,283 | 9/29/2000 |
| 08/486,258 | 9/29/2000 |
| 08/435,757 | 10/2/2000 |
| 08/449,263 | 10/2/2000 |
| 08/449,281 | 10/2/2000 |
| 08/437,791 | 10/5/2000 |
| 08/446,431 | 10/5/2000 |
| 08/488,439 | 10/5/2000 |
| 08/474,146 | 10/5/2000 |
| 08/449,532 | 10/6/2000 |
| 08/487,536 | 10/10/2000 |
| 08/449,523 | 10/10/2000 |
| 08/475,342 | 12/1/2000 |


1981 Effective Filing Date
A
B
C-X
1987 Effective Filing Date
A
B
C-X
1. Enter preliminary amendment to A adding: (a) all claims of applications C to X, and (b) all but one claim of application B.
2. Receive from PTO interview summary stating the origin of transferred claims and that all the claims are subject to examination in application A.
3. Expressly abandon applications C to X.
4. Maintain application B as a potential application for any claims not allowed.
Each Group of 52
Applicants propose amendments to claim language
Examiners prepare questions in response
1st Interview of Record
Off-record interviews with applicants and examiners
Any Claims to Appeal?
No
Yes
2d Interview of Record: 1. 112(1&2); 2. Pat. SM; 3. All issues resolved.
Officially amend claims in application A and add any undisputed claim from application B.
Expressly abandon application B if no Appeal issues
Issue Application A
2d Interview of Record: Claims at issue moved to application B; cancelled from application A, if any.
Allowable claims to Appln. A
Office Action
Appln. B To Board of Appeals

**Harvey Project Process**



TJS | SSS

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | | ATTORNEY DOCKET NO. |
|---|---|---|---|---|
| 08/498,002 | 06/07/95 | HARVEY | J | 5634.345 |

E6M1/1112

THOMAS J SCOTT JR
HOWREY & SIMON
1299 PENNSYLVANIA AVENUE N W
WASHINGTON DC 20004

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HOWREY & SIMON

| EXAMINER | |
|---|---|
| HONG, H | |
| ART UNIT | PAPER NUMBER |
| 2601 | 13 |

DATE MAILED:
11/12/97

**Please find below and/or attached an Office communication concerning this application or proceeding.**

05634-0345
DOCKETED
Examiner's Inquiry
5/12/98.

Commissioner of Patents and Trademarks

PTO-90C (Rev. 2/95)
*U.S. GPO: 1997-422-198/60031

2 - Mail Copy

345

1. *Ex parte* prosecution is SUSPENDED FOR A PERIOD OF 6 MONTHS from the date of this letter to allow the Office to consider the complex issues surrounding the numerous related applications. Upon expiration of the period of suspension, applicant should make an inquiry as to the status of the application.

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Faile whose telephone number is (703) 305-4380.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

AIF:aif
August 13, 1997

Andrew Faile
ANDREW FAILE
SUPERVISORY PATENT EXAMINER
GROUP 2600

Appendix F
Applications with Notice of Suspension of Prosecution

| Docket No. | PTO Ser. No. | Date of Receipt |
|---|---|---|
| 037 | 08/437,887 | September 12, 1997 |
| 039 | 08/438,206 | May 27, 1997 |
| 041 | 08/435,758 | January 13, 1998 |
| 042 | 08/437,045 | September 12, 1997 |
| 043 | 08/438,659 | December 24, 1997 |
| 044 | 08/437,629 | August 27, 1997 |
| 046 | 08/438,216 | October 28, 1997 |
| 047 | 08/437,044 | August 19, 1997 |
| 048 | 08/437,937 | September 23, 1997 |
| 049 | 08/437,819 | July 23, 1997 |
| 050 | 08/438,011 | January 13, 1998 |
| 053 | 08/441,027 | August 19, 1997 |
| 055 | 08/442,369 | May 12, 1997 |
| 056 | 08/441,575 | December 8, 1997 |
| 057 | 08/451,496 | September 3, 1997 |
| 058 | 08/449,369 | December 18, 1997 |
| 060 | 08/441,033 | October 7, 1997 |
| 061 | 08/441,942 | July 1, 1997 |
| 065 | 08/452,395 | November 12, 1997 |
| 066 | 08/483,980 | October 10, 1997 |
| 067 | 08/449,717 | July 23, 1997 |
| 068 | 08/449,291 | September 18, 1997 |
| 071 | 08/448,977 | November 21, 1997 |
| 072 | 08/448,643 | August 27, 1997 |
| 073 | 08/473,996 | August 27, 1997 |
| 074 | 08/442,383 | September 3, 1997 |
| 075 | 08/441,880 | June 11, 1997 |
| 077 | 08/485,775 | December 10, 1997 |
| 078 | 08/451,746 | September 15, 1997 |
| 079 | 08/451,203 | September 12, 1997 |
| 080 | 08/441,577 | July 22, 1997 |
| 081 | 08/439,670 | November 21, 1997 |
| 083 | 08/442,327 | August 19, 1997 |
| 084 | 08/442,505 | November 12, 1997 |
| 087 | 08/442,165 | February 4, 1998 |
| 088 | 08/442,335 | February 13, 1998 |
| 089 | 08/442,507 | November 21, 1997 |
| 090 | 08/477,660 | February 2, 1998 |
| 092 | 08/484,276 | August 19, 1997 |
| 093 | 08/479,217 | September 15, 1997 |
| 094 | 08/487,516 | November 12, 1997 |
| 095 | 08/487,982 | November 13, 1997 |
| 097 | 08/487,536 | November 12, 1997 |
| 098 | 08/474,963 | August 21, 1997 |
| 099 | 08/478,663 | August 25, 1997 |
| 100 | 08/444,786 | January 16, 1998 |
| 101 | 08/445,054 | August 20, 1997 |
| 102 | 08/448,175 | August 19, 1997 |
| 104 | 08/446,553 | August 21, 1997 |
| 105 | 08/445,296 | August 19, 1997 |
| 106 | 08/446,579 | September 11, 1997 |

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Applications with Notice of Suspension of Prosecution

| Docket No. | PTO Ser. No. | Date of Receipt |
|---|---|---|
| 107 | 08/444,756 | August 18, 1997 |
| 109 | 08/444,788 | August 22, 1997 |
| 110 | 08/444,781 | November 12, 1997 |
| 113 | 08/445,290 | November 17, 1997 |
| 114 | 08/444,758 | August 18, 1997 |
| 115 | 08/444,887 | May 12, 1997 |
| 116 | 08/446,123 | September 2, 1997 |
| 119 | 08/445,294 | May 12, 1997 |
| 120 | 08/448,143 | May 27, 1997 |
| 121 | 08/447,496 | September 2, 1997 |
| 123 | 08/448,326 | September 12, 1997 |
| 124 | 08/449,530 | November 25, 1997 |
| 125 | 08/447,380 | November 12, 1997 |
| 128 | 08/447,416 | July 22, 1997 |
| 129 | 08/447,415 | November 12, 1997 |
| 130 | 08/447,679 | July 23, 1997 |
| 133 | 08/447,938 | June 17, 1997 |
| 134 | 08/447,908 | November 25, 1997 |
| 137 | 08/447,611 | June 17, 1997 |
| 138 | 08/447,449 | September 15, 1997 |
| 139 | 08/448,309 | August 27, 1997 |
| 140 | 08/447,447 | July 12, 1997 |
| 141 | 08/447,977 | May 12, 1997 |
| 142 | 08/448,251 | May 27, 1997 |
| 144 | 08/447,529 | May 12, 1997 |
| 145 | 08/447,974 | May 12, 1997 |
| 146 | 08/449,652 | September 12, 1997 |
| 147 | 08/449,302 | August 27, 1997 |
| 148 | 08/479,374 | September 15, 1997 |
| 149 | 08/446,432 | September 15, 1997 |
| 152 | 08/446,430 | November 14, 1997 |
| 154 | 08/446,494 | August 21, 1997 |
| 155 | 08/448,141 | September 24, 1997 |
| 157 | 08/448,116 | September 2, 1997 |
| 158 | 08/448,099 | June 24, 1997 |
| 159 | 08/447,726 | August 19, 1997 |
| 160 | 08/475,341 | August 18, 1997 |
| 161 | 08/448,976 | July 22, 1997 |
| 162 | 08/448,833 | July 3, 1997 |
| 163 | 08/448,644 | November 12, 1997 |
| 164 | 08/449,718 | May 12, 1997 |
| 165 | 08/448,917 | May 30, 1997 |
| 166 | 08/488,383 | November 12, 1997 |
| 167 | 08/478,864 | September 2, 1997 |
| 170 | 08/449,351 | September 29, 1997 |
| 171 | 08/449,248 | December 18, 1997 |
| 176 | 08/449,531 | July 21, 1997 |
| 179 | 08/448,667 | November 12, 1997 |
| 181 | 08/448,978 | July 23, 1997 |
| 186 | 08/474,146 | August 27, 1997 |
| 190 | 08/481,074 | August 25, 1997 |

Appendix F
Applications with Notice of Suspension of Prosecution

| Docket No. | PTO Ser. No. | Date of Receipt |
|---|---|---|
| 192 | 08/479,667 | August 26, 1997 |
| 195 | 08/483,054 | December 8, 1997 |
| 196 | 08/487,981 | August 19, 1997 |
| 197 | 08/477,805 | January 13, 1998 |
| 199 | 08/485,283 | August 22, 1997 |
| 200 | 08/450,680 | August 27, 1997 |
| 204 | 08/449,110 | July 23, 1997 |
| 205 | 08/449,532 | June 24, 1997 |
| 207 | 08/448,979 | April 3, 1997 |
| 208 | 08/449,097 | May 27, 1997 |
| 209 | 08/448,916 | September 4, 1997 |
| 210 | 08/482,574 | June 11, 1997 |
| 213 | 08/460,793 | September 15, 1997 |
| 214 | 08/460,120 | September 19, 1997 |
| 215 | 08/460,043 | May 12, 1997 |
| 216 | 08/460,591 | May 12, 1997 |
| 217 | 08/458,760 | July 22, 1997 |
| 219 | 08/460,387 | May 12, 1997 |
| 220 | 08/460,187 | October 28, 1997 |
| 221 | 08/460,677 | August 19, 1997 |
| 223 | 08/460,817 | January 13, 1998 |
| 227 | 08/480,060 | August 26, 1997 |
| 228 | 08/486,265 | September 3, 1997 |
| 229 | 08/460,743 | September 5, 1997 |
| 231 | 08/459,217 | May 12, 1997 |
| 233 | 08/459,521 | September 2, 1997 |
| 235 | 08/488,438 | November 12, 1997 |
| 236 | 08/460,274 | May 12, 1997 |
| 237 | 08/460,770 | February 18, 1998 |
| 238 | 08/459,522 | June 11, 1997 |
| 239 | 08/460,085 | May 14, 1997 |
| 240 | 08/460,081 | May 12, 1997 |
| 241 | 08/460,240 | August 27, 1997 |
| 244 | 08/460,642 | January 13, 1998 |
| 245 | 08/460,557 | August 22, 1997 |
| 246 | 08/460,634 | August 21, 1997 |
| 248 | 08/460,556 | August 22, 1997 |
| 249 | 08/460,766 | September 24, 1997 |
| 250 | 08/487,397 | August 19, 1997 |
| 251 | 08/483,174 | December 8, 1997 |
| 252 | 08/487,851 | September 24, 1997 |
| 261 | 08/470,571 | November 12, 1997 |
| 263 | 08/468,641 | October 28, 1997 |
| 264 | 08/469,056 | September 23, 1997 |
| 265 | 08/470,054 | September 24, 1997 |
| 266 | 08/469,106 | November 21, 1997 |
| 267 | 08/471,191 | December 30, 1997 |
| 269 | 08/469,108 | September 12, 1997 |
| 270 | 08/466,888 | December 8, 1997 |
| 271 | 08/471,238 | August 20, 1997 |
| 273 | 08/469,623 | August 18, 1997 |

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Applications with Notice of Suspension of Prosecution

| Docket No. | PTO Ser. No. | Date of Receipt |
|---|---|---|
| 274 | 08/511,491 | November 12, 1997 |
| 277 | 08/468,736 | September 12, 1997 |
| 278 | 08/470,236 | September 12, 1997 |
| 279 | 08/469,078 | September 12, 1997 |
| 280 | 08/469,612 | August 19, 1997 |
| 282 | 08/468,044 | August 18, 1997 |
| 284 | 08/467,904 | September 24, 1997 |
| 285 | 08/467,045 | August 19, 1997 |
| 286 | 08/471,240 | August 18, 1997 |
| 287 | 08/469,517 | September 12, 1997 |
| 288 | 08/469,059 | November 21, 1997 |
| 289 | 08/470,570 | September 12, 1997 |
| 290 | 08/469,496 | February 2, 1998 |
| 291 | 08/470,053 | September 12, 1997 |
| 293 | 08/470,448 | December 8, 1997 |
| 294 | 08/469,107 | September 12, 1997 |
| 295 | 08/472,066 | August 27, 1997 |
| 296 | 08/469,109 | January 13, 1998 |
| 299 | 08/471,024 | January 8, 1998 |
| 300 | 08/469,103 | September 24, 1998 |
| 301 | 08/470,476 | August 19, 1997 |
| 304 | 08/485,507 | August 22, 1997 |
| 305 | 08/472,399 | June 2, 1997 |
| 306 | 08/478,544 | August 19, 1997 |
| 309 | 08/478,107 | August 18, 1997 |
| 310 | 08/480,392 | June 10, 1997 |
| 311 | 08/482,857 | September 12, 1997 |
| 312 | 08/477,711 | July 21, 1997 |
| 314 | 08/487,410 | October 23, 1997 |
| 315 | 08/472,462 | August 27, 1997 |
| 316 | 08/478,767 | October 9, 1997 |
| 323 | 08/484,275 | September 2, 1997 |
| 324 | 08/474,139 | September 15, 1997 |
| 326 | 08/479,375 | August 27, 1997 |
| 330 | 08/474,119 | August 20, 1997 |
| 331 | 08/486,297 | January 13, 1998 |
| 332 | 08/485,773 | September 24, 1997 |
| 333 | 08/473,927 | March 3, 1998 |
| 334 | 08/478,044 | August 27, 1997 |
| 335 | 08/477,570 | September 23, 1997 |
| 336 | 08/488,436 | January 16, 1998 |
| 337 | 08/486,266 | September 15, 1997 |
| 338 | 08/483,169 | November 12, 1997 |
| 339 | 08/488,378 | September 15, 1997 |
| 341 | 08/479,216 | August 27, 1997 |
| 343 | 08/480,740 | August 20, 1997 |
| 345 | 08/498,002 | November 12, 1997 |
| 346 | 08/487,984 | November 14, 1997 |
| 347 | 08/478,794 | September 2, 1997 |
| 348 | 08/484,865 | October 28, 1997 |
| 349 | 08/480,383 | September 24, 1997 |

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Applications with Notice of Suspension of Prosecution

| Docket No. | PTO Ser. No. | Date of Receipt |
|---|---|---|
| 353 | 08/472,980 | August 20, 1997 |
| 355 | 08/487,526 | November 12, 1997 |
| 358 | 08/479,215 | November 12, 1997 |
| 359 | 08/479,414 | November 12, 1997 |
| 362 | 08/484,858 | May 12, 1997 |
| 363 | 08/487,428 | August 19, 1997 |
| 364 | 08/473,997 | November 13, 1997 |
| 365 | 08/479,523 | November 12, 1997 |

08/498,345

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
ASSISTANT SECRETARY AND COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION: 08/498,002
DATE: 11/15/97

THOMAS J SCOTT JR
HOWREY & SIMON
1299 PENNSYLVANIA AVENUE N W
WASHINGTON DC 20004

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NOTIFICATION OF CHANGE DUE TO PTO MOVE AND CONSOLIDATION

THE EXAMINER OF RECORD HAS RECENTLY MOVED AS PART OF THE PTO CONSOLIDATION INTO TECHNOLOGY CENTERS. PLEASE USE THE FOLLOWING INFORMATION IN FUTURE RESPONSES AND INQUIRIES TO THE PTO.

EXAMINER: HONG, HARRY

NEW GAU: 2742

BUILDING: PK2 FLOOR: 08 ROOM: 8D10

TELEPHONE: 703-306-3040

RECEPTIONIST PHONE: 703-305-3900

FAX NUMBER: 703-308-5403

HOWREY & SIMON
DEC 04 1997
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CLEVER - 4/97

## TABLE OF CONTENTS

## TABLE OF AUTHORITIES

Cases



Statues

## Rules



## Procedures

1. BACKGROUND: THE PORTFOLIO.

In the period between March 2, 1995, and June 7, 1995, applicants[1] filed 328 applications, each of which contained a 557-page specification. These 328 applications were filed immediately prior to June 8, 1995, the effective date of the Uruguay Round Agreements Act, Pub. L. No. 103-465, § 532, 108 Stat. 4983 (1994). (The Uruguay Round Agreements Act limited patent coverage to twenty years from the date of filing, whereas previously, patent coverage had existed seventeen years from the date of issuance, barring unenforceability due to inequitable conduct or laches.) These 328 specifications were continuations, under 35 U.S.C. 120 ("Section 120"), of applicants' 557-page parent application no. 08/113,329 ('329), filed August 30, 1993 (the " '329 application"). The '329 application is a Section 120 continuation of the 557-page application no. 056,501 (the " '501 application") which was filed on May 3, 1993 and which subsequently matured into U.S. patent no. 5,335,277 ('277) on Aug. 2, 1994. See Appendix at 000504-506 for a list of applicants' 328 applications, plus the parent '329 application. The first six applications in the chain, including '277, are shown below.

[1] Applicant Harvey is President and CEO of assignee Personalized Media Communications, L.L.C. (PMC), a limited liability company formed under the laws of the State of Delaware with its principal place of business at 110 East 42nd Street, Suite 1704, New York, NY 10017. PMC was formed in September, 1995 and, in December, 1995, acquired most of the assets and certain liabilities of Personalized Mass Media Corporation (PMMC). PMC's predecessor company, National Cable Clearinghouse, was founded in 1981 by Mr. Harvey. Its name was changed to PMMC in 1989. PMMC's assets were sold to PMC in 1995. See In re Certain Digital Satellite Sys. (DSS) Receivers & Components Thereof, No. 337-TA-392 (Int'l Trade Comm. Oct. 20, 1997) (Initial Determination), [Part 2 of 2] 1997 ITC LEXIS 307, *70, *71(FINDINGS OF FACT, Section A, 1-3). Applicant Harvey and his counsel Thomas J. Scott, Jr., both earned degrees from Yale University around 1966. Appendix at 569 and Id., [Part 2 of 2] 1997 ITC LEXIS 307, *83-84 (FINDINGS OF FACT, Section D, 46-50).

The primary examiner adopts certain findings of fact by Administrative Law Judge Paul J. Luckern in the ITC Litigation. See In re Certain Digital Satellite Sys. (DSS) Receivers & Components Thereof, No. 337-TA-392 (Int'l Trade Comm. Oct. 20, 1997) (Initial Determination), [Part 2 of 2] 1997 ITC LEXIS 307, *75, *76 (FINDINGS OF FACT, Section C, 21 and 23):

C. Patents And Patent Applications Of Harvey And Cuddihy As Co-Inventors

21. PMMC is the named assignee on six issued United States patents naming John C. Harvey and James W. Cuddihy as co-inventors:

| Patent No. | Application Serial No. | Filing Date | Issue Date |
|---|---|---|---|
| 4,694,490 ('490 patent) | 317,510 ('510 application) | Nov. 3, 1981 | Sept. 15, 1987 |
| 4,704,725 ('725 patent) | 829,531 ('531 application) | Feb. 14, 1986 | Nov. 3, 1987 |
| 4,965,825 ('825 patent) | 096,096 [2] (continuation-in-part '096 application) | Sept. 11, 1987 | Oct. 23, 1990 |
| 5,109,414 ('414 patent) | 588,126 ('126 application) | Sept. 25, 1990 | Apr. 28, 1992 |
| 5,233,654 ('654 patent) | 849,226 ('226 application) | Mar. 10, 1992 | Aug. 3, 1993 |
| 5,335,277 ('277 patent) | 056,501 ('501 application) | May 3, 1993 | Aug. 2, 1994 |

[2] On Sept. 11, 1987 applicants failed to specifically include or incorporate by reference the 44-page parent '531 specification into the 557-page '096 specification (applicants' principal counsel failed to "incorporate by reference" the parent '531 application's 44 pages into the '096 application's 577 pages). As a consequence, applicants failed to maintain "continuity" of the 44-page subject matter.

23. The specifications for the '490 and '725 patents were identical and 22 patent columns in length [44 pages plus drawings]. The specification for the '096 application, in contrast, was approximately 322 patent columns in length [557 pages plus drawings] . . .

a. The Primary Examiner Reserves the Right to Provide Further Information Regarding Applicants' Course of Conduct.

Applicants and their counsel (Thomas Scott, Jr.) have been attempting to secure patents by pursuing their unique, but improper, prosecution strategy for many years. One court noted that

> Scott has been involved in [the] patent [portfolio] prosecution and strategy for many years, perhaps as far back as the 1970s. According to [the applicant], [Scott] is the most knowledgeable person about the disclosures on file in the PTO, [and] with the . . . 300 [then actually 329] pending applications for related patents. Scott also is described by [applicants] as "the expert on all aspects of the Company's patent position: including . . . the company's development of its future patent prosecution strategy."

See Personalized Mass Media Corp. v. The Weather Channel, Inc., et al., 899 F. Supp. 239, 244 (1995), Appendix at 000419.

Applicants' prosecution "strategy" has involved the submission of tens of thousands of claims, as well as thousands prior art references, a substantial number of which are irrelevant. This "strategy" has burdened the U.S.P.T.O. with vast amounts of information and prosecution content. The primary examiner cannot possibly discuss all of the prosection content in this Notice, due to its sheer quantity. However, the primary examiner assumes that applicants are aware of their own prosecution content.

M.P.E.P. 711.03(d) states as follows:

> [T]he examiner "may be directed by the Commissioner to furnish a written statement...setting forth the reasons for his or her decision upon the matters averred in the petition, supplying a copy thereof to the petitioner." Unless requested, however, such a statement should not be prepared. See M.P.E.P. 1002.01.

However, should applicants choose to refute this Final Notice, the primary examiner reserves the right to provide additional prosecution content providing further basis for this Notice.

2. STATEMENT OF PUBLIC INTEREST.

This Final Notice is proper. Applicants and their counsels have created an enormous prosecution burden on the U.S.P.T.O. with their prosection "strategy," as will be explained. This burden on the office has caused unjustifiable and prejudicial delay.

a. Applicants' Targets: Courts, Industry, and Licensees.

Applicants are aware that there are members of the public who have developed or invested in products and systems that have emerged in the market place related to applicants' crafted claims. Appendix at 000419 lists applicants' targets of litigation, including The Weather Channel and others which carry programming broadcast over the SATCOM satellite communications system, including the following (899 F. Supp. at 239):

-Landmark Communications Inc.,
-TCI of Virginia, Inc.,
-Newport News Cablevision LTD,
-Continental Cablevision of Richmond,
-Continental Cablevision of Virginia, Inc.,
-Media General Cable of Fairfax County, Inc.,
-Media General Cable of Fredericksburg, Inc.,
-Comcast Cablevision of Chesterfield County, Inc.,
-SBC Media Ventures, Inc.,
-Jones Intercable of Alexandria, Inc.,
-Falcon Holding Group, L.P., and

-Adelphi Communications Corp.

Other targets appear to be all cable television companies throughout the U.S. who carry the Weather Channel programming, as well as Weather Channel competitors. Moreover, the ITC Litigation identifies additional targets as follows (See [Part 2 of 2] 1997 ITC LEXIS 307, *70-72 (FINDINGS OF FACT, Section A, 4-15)):

> 4. Respondent Hughes Network Systems (HNS) is a corporation organized and existing under the laws of the State of Delaware with its principal place of business at 11717 Exploration Lane, Germantown, MD 20876 . . . .
>
> 5. HNS is in the business of designing, manufacturing, importing and selling in the United States consumer electronics products . . . .
>
> 6. Respondent . . . Hitachi Home Electronics (America), Inc. (Hitachi) is a corporation organized and existing under the laws of the State of California with its principal place of business at 3890 Steve Reynolds Blvd., Norcross, GA 30093 . . . .
>
> 7. Hitachi is in the business of designing, manufacturing, importing and selling in the United States consumer electronics products . . . .
>
> 8. Respondent DIRECTV is a corporation organized and existing under the laws of the State of California with its principal place of business at 2230 E. Imperial Highway, El Segundo, CA 90245 . . . .
>
> 9. DIRECTV is in the business of selling and providing television programming through the transmission of satellite broadcast signals . . . .
>
> 10. Respondent USSB is a corporation organized and existing under the laws of the State of Minnesota with its principal place of business at 3415 University Avenue, St. Paul, MN 55114 . . . .
>
> 11. USSB is in the business of selling and providing television programming through the transmission of satellite broadcast signals . . . .
>
> 12. Respondent Thomson Consumer Electronics, Inc. (Thomson or TCE) is a corporation organized . . . and existing under the laws of the State of Delaware with its principal place of business at 10330 N. Meridian Street, Indianapolis, IN 46290-1024. . . .

> 13. Thomson is engaged in the business of designing, manufacturing, importing, and selling in the United States consumer electronics products. . .
>
> 14. Respondent Toshiba America Consumer Products Inc. (Toshiba) is a corporation organized and existing under the laws of the State of New Jersey with its principal place of business at 82 Totowa Road, Wayne, NJ 07470 . . . .
>
> 15. Respondent Matsushita Electronic Corporation of America (Matsushita) is a corporation organized and existing under the laws of the State of Delaware with its principal place of business at One Panasonic Way, Secaucus, NJ 07094. . . .

Additional targets identified in the ITC Litigation are as follows, Appendix at 000462-478. See [Part 2 of 2] 1997 ITC LEXIS 307, *148-180 (FINDINGS OF FACT, Sections G-H):

-Hewlett Packard (fact 180),
-ARC (fact 186),
-Viacom International (fact 175),
-Starsight (facts 164,198,312,320,323-325,334,337,339-341,350-352,360-362,368),
-Sony (facts 171,198) , and
-the National Football League (facts 187-188,191-192).

Numerous additional targets may exist who represent the public interest, such as courts, and industry in general which have developed, in good faith, products and systems that have emerged in the market place and which are thus potentially subject to applicants' tens of thousands of claims in their "portfolio."

Applicants have been to court numerous times with their portfolio. The courts have given careful consideration to previous prosection, including the 329 applications. Appendix at 000422, 000462-478. Among the findings of fact by courts are the following:

> The business of PMC consists primarily of licensing its intellectual property and prosecution of patent applications. . . . As of June 11, 1997, with respect to any of PMC's current licensees, PMC does not design any tangible products for those licensees, nor does it work with manufacturers of those licensees' products in any way, nor does PMC monitor the quality of those licensees' products or services in any way, nor does PMC do any kind of safety checking on the products produced by those licensees, nor does PMC participate in any marketing efforts made on behalf of the products or systems licensed under its patents.

Appendix at 462. Rather than contributing to progress, it appears that applicants' primary business consists of attempting to license their portfolio to businesses engaged already in active production and development of products and systems applicants now claim as proprietary inventions.

3. THE LEGAL MYTH.

As an initial point, the primary examiner clarifies, for the record, that he has performed a survey of the pattern of prosecution in applicants' patent portfolio because the primary examiner has not received requested cooperation from applicants and their counsels in understanding what subject matter applicants believe they are claiming, and because applicants have failed to supplement their current deficient responses. The primary examiner realized, during the summer of 1999, that the approximately 191 applications to which applicants allege priority benefit to 1981 (of a total number of 329 applications) are replete with a pattern of material misrepresentations of law and related factual omission. As a consequence, the portfolio prosecution record adds up to a virtually meaninglessness record as to the merits and thus, among other things, has caused unjustifiable and prejudicial delay.

More specifically, the primary examiner realized that the patent portfolio record is replete with a pattern of misrepresentations regarding Section 120 "consequence" (e.g., see Appendix at 507); misleading references to the 44-page parent application as "the specification" (e.g., see Appendix at 508); material written description factual omissions in response to 35 U.S.C. § 112 (Section 112) rejections (both first and second paragraph), which failed to cite the 557-page specification; finally, among other things, applicants caused conflicting file wrapper histories from one application to another application. The primary examiner believes that applicants should be estopped from simultaneously assuming conflicting positions among the various applications.

As related to applicants' responses in the 191 applications, the portfolio is replete with a pattern of what appears to be intentional misrepresentation of the legal application of Sections 120 and 112. The sheer number of these inaccurate responses has resulted in the loss of many years of the portfolio's prosecution, and has harmed the public interest. This pattern has caused unjustifiable and prejudicial delay of the portfolio prosecution, and is grounds for rejection on the basis of laches (see amicus brief in support of Symbol Technologies v. Lemelson Medical, Educational & Research Foundation, Limited Partnership, Appendix at 000509-551; see also Timothy R. DeWitt, Does Supreme Court Precedent Sink Submarine Patents?, Appendix at 000552-568; see also Personalized Mass Media Corp. v. The Weather Channel, Inc., et al., 899 F. Supp. 239 (E.D. Va. 1995), Appendix at 000419-424; see also Ex parte Hull, 191 U.S.P.Q. 157 (P.T.O.B.A. 1975)).

It appears that, for applications in which applicants claim priority benefit to 1981, applicants have been improperly characterizing the "the specification" as the 1981 44-page parent specification; in fact, both the 1981 specification *and* the 1987 557-page specification were the appropriate references. According to the applicants, all that was required to gain priority benefit would have been to demonstrate written description in the 44-page parent specification. However, applicants would have been required to demonstrate written description in *both* the 1987 and the 1981 specification, in order to claim priority benefit to 1981. However, the written description of the 1981 specification was not incorporated by reference or otherwise included in the 1987 specification. This pattern of references to the wrong specification, and the related material omissions of written description to the correct (1987) specification, has resulted in unjustifiable and prejudicial delay. Due to the lack of continuity of written description back to 1981, the current file history displays no justification for issuance of a patent in these applications. Additional improprieties are addressed later in this notice.

4. FINAL NOTICE OF NON-RESPONSIVE AMENDMENT.

Applicants' Request for Reconsideration (Request) is not responsive to the Initial Notice of Non-Responsive. (The Initial Notice of Non-Responsive applied to applicants' amendments.)

Applicants' nonresponsive amendments are not fully responsive to the previous office actions. Applicants' continued failure to identify the proper written description, even after a request for proper written description by the primary examiner, as required under Section 112, has further caused unjustifiable and prejudicial delay. This is a Final Notice of Non-Responsive Amendment

from the primary examiner ("Final Notice").

a. Initial Notice from the Primary Examiner.

The primary examiner previously brought the pattern of material omissions of written description to applicants' attention via the Initial Notice. According to the M.P.E.P., "[O]nce an inadvertent omission is brought to the attention of the applicants, the question of inadvertence no longer exists." M.P.E.P. 714.03. Accordingly, it is irrelevant whether the Non-Responsive Amendments "appear to be *bona-fide*." However, the Non-Responsive Amendments do not "appear to be *bona-fide*" in view of the evidence before the primary examiner.[3] The material omissions related to written description remain unacceptable and improper under the law.

b. Between September 1996 and October 1997, Applicants Relied Primarily on the 1981 Specification, Contrary to the Requirements under 35 U.S.C. § 120.

Between September 13, 1996 and October 20, 1997, applicants consistently referred primarily to the 1981 specification in amendments submitted to the U.S.P.T.O. In doing so, applicants implied to the U.S.P.T.O. that citations to the 1981 specification, alone, were sufficient to establish priority benefit to 1981.

[3] These issues are related to materially analogous PATTERNS of communications between the applicants and the PTO in at least the co-pending application no.'s which are now subject to this notice: 08/437,044; 08/437,937; 08/438,206; 08/438,659; 08/440,837; 08/441,880; 08/442,165; 08/442,335; 08/442,507; 08/444,756; 08/445,290; 08/446,429; 08/446,494; 08/447,711; 08/449,110; 08/449,413; 08/449,702; 08/449,800; 08/451,377; 08/459,216; 08/469,078; 08/470,448; 08/470,476; 08/471,024; 08/474,139; 08/477,564; 08/478,794; 08/482,573; 08/483,054; 08/483,174; 08/483,980; 08/487,408; 08/487,649; 08/488,378; 08/498,002; 08/511,491. However, such pattern extends to the entire patent portfolio prosecution corresponding to cases which allege priority benefit to the 44 page parent specification. An enumerated list of the portfolio minus the first six patents are illustrated in the APPENDIX at pages 000504-506.

Although applicants made "parallel citations," citing references to the 1987 specification in footnotes, applicants primarily cited the 1981 specification in the text of the amendments. However, applicants knew, or should have known that "continuity of disclosure" required substantive references to both the 1981 and the 1987 disclosures, as well as the current disclosure.

On September 13, 1996, Thomas J. Scott, Jr., applicants' principal counsel, stated as follows, in discussing In re Bauman, 683 F.2d 405, 407 (C.C.P.A. 1982):

> Thus the basic requirements of Section 120 have been summarized as
> (1) copendency (i.e. the later filed application must be filed before "the prior application" is patented, abandoned or the proceedings are terminated);
> (2) continuity of disclosure (i.e. it relies upon and is supported by the parent application's specification);
> (3) coinventorship (i.e. the subsequent application lists the same inventor(s) as the parent); and
> (4) specific reference to the earlier application (i.e. the continuation application references the parent).

Appendix at 000481. It appears, then, that applicants were aware at least as early as September 13, 1996, that "continuity of disclosure" was required. Between September 1996 and October 1997, applicants' amendments failed to adequately reference all written disclosures necessary to establish "continuity of disclosure," which Thomas J. Scott, Jr. recognized to be a "basic requirement." The amendments cannot be considered fully responsive. The non-responsive material omissions, related to written description, are unacceptable and improper under the law. Accordingly, the non-responsive Amendments do not appear to be bona-fide, since the legal requirements were known to applicants.

c. Applicants Were Notified In Court As to the Proper Specification Under

35 U.S.C. § 120. Furthermore, Applicants Failed to Bring Such Notification to the Attention of the U.S.P.T.O., Contrary to M.P.E.P. 2001.06(c).

On October 20, 1997, in the ITC Investigation's Initial Determination, Administrative Law Judge Paul J. Luckern reproached applicants for improperly identifying written description from the 1981 44-page parent specification.[4] Specifically, applicants received judicial notice that the written description for applicants' claims is necessarily found in the 1987 557-page specification and not the 1981 44-page parent specification. The non-responsive material omissions of written description are thus unacceptable and improper under the law. Accordingly, the Non-Responsive Amendments do not "appear to be *bona-fide.*"

There was inquiry as to whether "continuity of disclosure" existed. According to the Administrative Law Judge, applicants' counsel stated that to the extent the "[1981 44-page disclosure] has relevance, it is because it is part of the file history of the [1987 557-page disclosure]." See [Part 1 of 2] 1997 ITC LEXIS 307, *252 *citing* ITC transcript at 3658. However, "file history" in this case is not the same as "continuity of disclosure," which would have required that the written description of the 1981 disclosure be incorporated by reference or otherwise included in the 1987 disclosure. At no time did applicants' counsel establish

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[4]The ITC Investigation began in 1996. Applicants filed a complaint with the United States International Trade Commission (the "Commission") asserting that various intervenors were importing Digital Satellite Systems (DSSs) that infringed applicants' patent claims in violation of 19 U.S.C. § 1.337(a) (1994) ("Section 337"). In response, the Commission instituted the investigation on December 18, 1996. See 61 Fed. Reg. 66695-96 (1996). The Intervenors and the Commission generally maintained the same positions. The ITC Investigation culminated in the Initial Determination of 450 pages. The Administrative Law Judge recommended that the Commission conclude that Section 337 had not been violated.

"continuity of disclosure."

Approximately one year after instructing the Board of Appeals and Interferences at the PTO that the "basic requirements"[5] included "continuity of disclosure," applicants regressed to arguing that they should get priority benefit for satisfying only steps 1), 3), and 4). However, the ALJ recognized that common subject matter is required to satisfy Section 120 (in addition to the other requirements).

d. Applicants' Pattern of Improperly Identifying the Wrong Written Description In the Current Prosecution Began On or After Applicants Received Reproach for Improper Identification of Written Description In Court.

After Judge Paul J. Luckern's reproach to applicants on October 20, 1997, applicants not only continued to focus on the 1981 disclosure in prosecution before the U.S.P.T.O., but ceased referencing the 1987 disclosure entirely. Furthermore, applicants began asserting to the U.S.P.T.O. that reference to the 1987 disclosure was unnecessary under Section 120. Given Judge Luckern's specific comments to the contrary, the non-responsive amendments do not appear to be *bona-fide*. Thus, the non-responsive material omissions are unacceptable and improper under the law.

e. The Principal Counsel's Parenthetical Remarks in Application No. 08/113,329 Misinterpret In Re Bauman.

Applicants' parenthetical remarks (Appendix at 000481), misstate the legal test for "continuity of disclosure." Specifically, the parenthetical remarks state that "continuity of disclosure" means that "it relies upon and is supported by the parent application's specification." Applicants have

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[5] In re Bauman, 683 F.2d 405, 407 (C.C.P.A. 1982).

interpreted this to mean that the present claim must be supported only by the 1981 specification. However, this is wrong, and not supportable by In re Bauman, which clearly requires "continuity;" i.e., a continuous chain of common subject matter. In this case, that would require the present claim to rely on and be supported by the written descriptions in both the 1987 and the 1981 specifications.

Applicants' misstatement of In re Bauman contributed to unjustifiable and prejudicial delay. The non-responsive material omissions related to written description are unacceptable and improper under the law. Accordingly, the non-responsive Amendments do not "appear to be *bona-fide.*"

Until recently, the primary examiner and other U.S.P.T.O. examiners have relied in good faith on the principal counsel's misleading statements of law and related misrepresentation of the 1981 44-page disclosure as "the specification" (e.g., Appendix at 000508). Thus, the U.S.P.T.O. has been misled by applicants' material omissions related to the written description, to the detriment of the public interest.

Moreover, the applicants' material omissions of written description, insertion of misleading parenthetical content, and failure to identify the correct specification following both judicial notice by the court and notice by the primary examiner, have caused unjustifiable and prejudicial delay. This delay is grounds for rejection of the claim on the basis of laches.

f. Applicants Have Misled the U.S.P.T.O. In Other Instances.

Applicants have made additional misleading representations of Section 120. For instance,

Appendix at 000480 states as follows:

> The case law makes clear that the only relevant inquiry concerning claims filed in a subsequent continuation application pursuant to Section 120 is whether they are adequately supported in under Section 112, first paragraph, in the initial application.

Paper 21, p. 27, 08/113,329 ('329).

This statement of the law is wrong; "continuity" is required, not only support in the "initial application." This misstatement has caused unjustifiable and prejudicial delay. The material question is whether both the 1987 and the 1981 specifications support the claims. Accordingly, the non-responsive material omissions of written description are unacceptable and improper under the law. The non-responsive amendments do not appear to be *bona-fide.*

g. Applicants Received Prior Notice in Court that Any Lapse By The Examiner Does Not Exculpate Counsel.

In the ITC Litigation, applications were judicially notified that

> . . . lapse on the part of an Examiner does not exculpate an applicant whose acts are intentionally deceptive. . . .

See [Part 1 of 2] 1997 ITC LEXIS 307, *38, *citing* Northern Telecom Inc. v. Datapoint Corp., 908 F.2d 931, 15 U.S.P.Q.2d 1321, 1327 (Fed. Cir. 1990). For the purpose of protecting the public interest, the primary examiner states for the record that he firmly believes it was the principal counsel's intent to mislead the U.S.P.T.O. Although applicants have attempted to blame the U.S.P.T.O., on numerous occasions, for unreasonable delay, applicants' misleading statements have resulted in many years' unjustifiable and prejudicial delay in portfolio prosecution.

The primary examiner must rely on Section 112 rejections in order to encourage a clear and

accurate explanation from applicants as to how applicants believe their own pending claims/limitations can be interpreted so as to be supported by the 1987 disclosure. If the pending claims are based on unfounded allegations of claim support in the 1987 disclosure, then applicants' demand for the examiner to fulfill his duty of determining the scope/meaning of applicants' currently pending claims is inexplicable. Applicants cannot expect an examiner to discern (much less "immediately discern") the meaning/scope of applicants' own claim limitations when these claim limitations incorporate terminologies having normal/conventional meanings vastly different from the meanings/scopes that are now attached to them by applicants' arguments. (These arguments were/are not part of the original disclosure.)

The current patent prosecution "strategy" appears to be designed to overwhelm those who already have developed products and systems in the marketplace, the U.S.P.T.O., and the courts. Good-faith developers of products and systems, as well as the courts, should not be permitted to be overwhelmed.

It may be unusual for the issue of laches to arise during prosecution. However, the examiner has authority to reject claims on the basis of laches. In <u>Ex parte Hull</u>, 191 U.S.P.Q. 157, the Board of Patent Appeals and Interferences (Board) held that "prior warning in preceding allowed applications" could sustain a rejection on the basis of laches. The Board stated ". . . it is applicants' overall course of conduct rather than a number of continuing applications that is determinative and may result in forfeiture of right to patent." Thus, it is proper for the U.S.P.T.O. to record facts and findings related to applicants' overall pattern of portfolio conduct

which would support rejection on the basis of laches.

In addition, the Intellectual Property Owners Association (IPO) considers conduct causing "unjustifiable and prejudicial delay in prosecution" to be material to whether forfeiture of right to patent is appropriate under Supreme Court precedent. Appendix at 000509-551; see also Appendix at 000552-568 and 000419-424. The primary examiner must record the pattern of portfolio prosecution, and other related findings of fact that may be material to courts on the issue of laches. An accurate recounting of applicants' pattern of portfolio prosecution is in the public interest.

h. 1995: The Weather Channel Litigation, The Doctrine of Laches, Inequitable Conduct and The Principal Counsel.

In addition to applicants' ITC Litigation, applicants also initiated an earlier litigation using the same portfolio. See Personalized Mass Media Corp. v. The Weather Channel, Inc., et al., 899 F. Supp. 239 (E.D. Va. 1995), Appendix at 000419-424.

In that case ("Weather Channel Litigation"), Thomas J. Scott, Jr., and the law firm of Howrey & Simon, in which Mr. Scott was a partner, were disqualified from serving as trial counsel for applicants. This disqualification occurred after the Weather Channel alleged inequitable conduct (for failure to disclose prior art) and laches against applicants, and moved to disqualify counsel on the basis that Mr. Scott was a potential witness on both issues.

The Court observed as follows:

> There is evidence that Scott had available to him information about prior art which was not timely filed in connection with the '825 application. If the jury were to believe that material was deliberately withheld, it would be prejudicial to PMMC because proof of such inequitable conduct would render PMMC's patents unenforceable. . . . In sum, the record here establishes that some of Scott's testimony already is prejudicial to PMMC and other testimony reasonably may be characterized in that fashion without indulging in speculation or surmise.

899 F.Supp. at 244.

This Weather Channel opinion was published on September 8, 1995. However, applicants have continued a similar course of conduct in attempting to mislead the U.S.P.T.O. as to the existence of prior art known to applicants to render the claims unpatentable. Given applicants' rebuke in the Weather Channel case, applicants have revised their prior art disclosure strategy, and have submitted over 2,200 references to prior art in the instant claims. However, applicants failed to specifically identify prior art known to applicants to read on the claims (since the prior art was cited against other co-pending applications claiming the same general subject matter).

i. <u>Applicants' Overall Conduct Has Caused Unjustifiable and Prejudicial Delay in Prosecution</u>.

Applicants have stated that the principal counsel is the "most knowledgeable person about the disclosures on file in the PTO, [and about] the . . . 300 pending applications for related patents [i.e. this instant application]." In addition, applicants have stated that the principal is "the expert on all aspects of the Company's patent position: including . . . the company's development of its future [i.e. the current] patent prosecution strategy . . . . " However, applicants' prosecution "strategy" has caused unjustifiable and prejudicial delay.

One needs only to read the ITC Investigation to appreciate how difficult it was for the ITC to

deal with a mere handful of applicants' crafted claims. In the instant case, the U.S.P.T.O. is faced with managing more than 5000 times that number of claims. Applicants' strategy of overwhelming the office, failing to specifically identify relevant prior art and misleading the office as to whether continuity of description was required, has resulted in unjustifiable and prejudicial delay.

i. The Number of Claims Filed By Applicants Is Unwarranted.

As patent applications go in the broadcast arts, applicants' 1987 disclosure is on the lengthy side, comprising 557 pages of written description. Using the claim numbers set forth above, it can be conservatively estimated that applicants have submitted between 18 and 36 claims per page of the 1987 description: i.e., about one claim for every 8.5 to 17.7 words. This claim-to-description ratio is higher when one considers only those portions of the 1987 written description on which the claims are actually based. Specifically, applicants' own expert witness, Mr. Davis, testified in the ITC Investigation that "you don't need to read all 310 . . .columns [of the 1987 557-page disclosure]". Mr. Davis testified that "you can gain a complete understanding [of the 1987 557-page disclosure] on the first 25 to 30 columns." (See [Part 1 of 2] 1997 ITC LEXIS 307, *251.) These first 30 columns correspond to about 57 pages of the 1987 written description, which translates to a ratio of one submitted claim for every 1 to 2 words of written description. The above ratio also *soars* when one considers those of the tens of thousands of submitted claims for which applicants have alleged priority to portions of the 44-page 1981 written description (i.e. those of the present application). The number of claims filed by applicants has caused unjustifiable and prejudicial delay.

ii. I.D.S. References Are Inappropriate and Irrelevant.

Applicants have filed approximately 2,200 references, many of which are irrelevant. The foreign language references cited were previously not accompanied by statements of relevance or translations and thus, not in compliance with 37 C.F.R. § 1.98. Numerous cited references are subsequent to the 1987 disclosure. Applicants also cited unrelated subject matter such as: U.S. Patent #33,189, (a beehive, see Appendix at 000501); GB 1565319 (a chemical compound); a coversheet titled "ZING" (Appendix at 000498-499); a computer print out from a library search with the word "LST" on it; a page of business cards, including that of James Cuddihy (Appendix at 000502); U.S. patent 2,731,197 titled "PIN BOX CONTROL MECHANISM" (Appendix at 000500); U.S. patent no. 4,473,068, an intramuscular implant device for use in retention of the greater trochanter (entitled "trochanteric basket,"Appendix at 000503); and numerous other irrelevant citations. These, among other references, create an onerous burden on the U.S.P.T.O. and have caused unjustifiable and prejudicial delay.

iii. Applicants' Preliminary Amendment Submissions Were Untimely. Furthermore, Applicants' Counsel's Request To Delay Prosecution Was Unreasonable.

As evidenced by the Appendix at 000430-431, although applicants filed the 328 applications prior to June 8, 1995, they did not complete their preliminary amendments for those applications until June of 1996, a year after filing. The record shows that the former examiner, Mr. Bookbinder, was receiving requests to delay prosecution from applicants' counsel Woolston as late as June 12, 1996. Appendix at 000430. Applicants' untimely filing of their preliminary amendments caused unreasonable delay.

iv. Applicants Have Filed Substantially Duplicate Claims in Different Applications. Furthermore, Applicants Failed to Make a Good Faith Effort, Contrary to M.P.E.P. 2001.06(b).

The Appendix at 000485-495 provides representative examples establishing that applicants filed substantially duplicate claims in most or all applications. In response to observation by the examiner of the presence of duplicate claims, applicants stated they

> acknowledge their duty to maintain a line of patentable demarcation between related applications. . . . the applicants intend to make a good faith effort to alert the PTO of any instances in which the PTO treats such claims inconsistently.

See paper no. 13 page no. 29 Section D, filed July 25, 1997, for portfolio application 08/487,851. Applicants titled this section "Duty to maintain line of patentable demarcation between related patents." However, it appears no "good faith effort" has been made. Applicants have not even alerted the U.S.P.T.O. how the representative claims were treated. Continued failure to inform the primary examiner of duplicate or substantially similar claims, as required by M.P.E.P. 2001.06(b) (Appendix at 000496), further caused unjustifiable and prejudicial delay. During the summer of 1999, the principal counsel admitted to failing to alert the PTO when like claims had been treated differently. ?

For example, applicants have submitted the same claim and/or a broader version of the same claim. Applicants then failed to notify the U.S.P.T.O. of prior art rejections by other examiners on the same or similar claims in other applications.

Application no. 08/459,218 ('218), claim 15, when compared to application no. 08/487,408 ('408), claim 18, demonstrates this practice. These two claims recite the same general subject matter. Claim 15 is slightly narrower, recognizing that "data" is more limiting than "mass medium

programming," and "instruct signals" is more limiting than "portions of mass medium programming." Claim 15 was rejected under 35 U.S.C. § 102 ("Section 102") on February 23, 1997, and also on April 16, 1998. However, applicants continued to submit claim 18 for examination without alerting the claim 18 examiner of the Section 102 prior art rejection of claim 15. Applicants' failure to identify the appropriate prior art to the claim 18 examiner caused a delay of two years in rejecting claim 18, and violated M.P.E.P. 2001.06(b). Applicants' practice of duplicative submissions, and failure to notify the office of prior art rejections in the duplicative claim, has caused unjustifiable and prejudicial delay.

v. Interview of June 16, 1999.

The personal interview of July 16, 1999 (the "July 16, Interview"), related to withdrawing from issue application no. 08/484,858 ('858), based on prior art teaching (the anticipation of '858 claim 9 by the abandoned grandparent disclosure corresponding to U.S. patent no. 4,536,791, issued to Campbell et al). Although applicants had been aware of this prior art teaching, applicants failed to notify the '858 examiner of this teaching, resulting in an erroneous allowance of the claim. In attendance at the interview was acting Director Dwyer, Supervisor Faile, examiner Luther, applicant Harvey, principal counsel Thomas J. Scott, Jr., and counsel Donald J. Lecher.

(1) Applicants' Principal Counsel Threatened to Seek a Writ of Mandamus.

The July 16, Interview began with threats by applicants' principal counsel to seek a writ of mandamus from the courts in order to force the PTO to issue '858. Claim 9 of '858 was the only claim that was discussed. Claim 9 was anticipated under Section 102 by Campbell et al., in teachings that counsel Donald J. Lecher had recognized during more than 20 hours of personal

interviewing earlier in 1999 on other applications (for example, application no. 08/470,571). Thus, the office was required to withdraw application no. '858 from issue, under 37 C.F.R. § 1.313(b)(3) (unpatentability of one or more claims). Even though counsel Lecher acknowledged, in the July 16, interview, that claim 9 was anticipated by Campbell, applicants' principal counsel Scott continued to threaten a writ of mandamus. Mr. Scott stated that he "desired" the '858 examiner's "interpretation" and "not" the current examiner's interpretations (or counsel Lecher's interpretation). However, neither Mr. Scott nor other counsel for applicants ever informed the '858 examiner that the same subject matter was under rejection in other applications.

In the July 16 interview, the examiner stated that claim 9 of '858 read squarely on Campbell et al.'s Figure 12 with respect to column 17, lines 58-61 (this corresponds to the Campbell, et al. abandoned grandparent disclosure). Figure 12 detailed a combined medium presentation, consisting of the display of a "text display black screen" [graphic presentation] and a "video" [television presentation] alternately. These teachings of Campbell, et al., had previously been thoroughly covered in more than twenty hours of interviews for other applications (for example, application no. 08/470,571). In response, counsel Lecher stated, "The examiner's right." Applicant Harvey then said that "it didn't matter" that applicants recognized these teachings of Campbell in their other portfolio applications, because each application was considered separate. Applicant Harvey insisted that Campbell factual teachings were not universal from case to case. However, the examiner pointed out that Campbell, et al., teach a universal set of facts that are uniform from case to case. In both the cases at issue, Campbell teaches a combined medium presentation consisting of a graphic presentation and a video television presentation, alternating.

The principal counsel then said he "desired" to "benefit" from the '858 examiner's interpretation, "regardless of what Campbell teaches." This "desire" was disturbing, since Campbell does, in fact, teach an alternate display of graphics and video at Fig. 12.

Applicants disregarded M.P.E.P. 2001.06(b) (Appendix at 000496) in attempting to procure different interpretations of Campbell from different examiners working on different applications, without disclosing to one examiner the use of Campbell in a rejection of the same subject matter against another application. However, applicants amended '571 to avoid Campbell (thereby conceding that Campbell was material on the same claimed subject matter), while failing to inform the '858 examiner of their amendment to avoid Campbell on that same subject matter. This practice is improper and contrary to the M.P.E.P. requirements; applicants are required to inform the respective examiners of potential conflicting U.S.P.T.O. actions. Applicants' failure to so inform the examiners resulted in the withdrawal from issue of the '858 application, and has caused unjustifiable and prejudicial delay in prosecution.

(2) Applicants Consistently Violated M.P.E.P. 2001.06(b).

Applicants continuously have failed to inform examiners of known conflict among applications containing the same claimed subject matter, but assigned to different examiners. For example, application no. 08/446,431 ('431) included a rejection of claim 13 under Section 102, citing Campbell as prior art, on *February 14, 1997* (see paper no. 12, page 23 paragraph 23). In response to this rejection, applicants stated that Campbell ". . . is completely silent on . . . one of a simultaneous presentation and sequential presentation" (no. '431, paper 15, page 36, lines 9-11). The '431 examiner correctly pointed out that Campbell does teach "one of a simultaneous

presentation and sequential presentation" (for example, graphic and video, per Fig 12). Applicants then further amended claim 13 to avoid Campbell on February 24, 1998 (see no. '431, paper 17, page 2).

However, on August 6, 1998, almost four months later, applicants attempted to procure letters patent for the same claimed subject matter in application no. 08/441,577 ('577). This application was rejected, with the examiner finding that "simultaneous presentation and sequential presentation" read on Campbell. In response to this rejection, applicants alleged " . . . Campbell lacks any concept of simultaneous or sequential output presented . . . ." Applicants never informed the '577 examiner that applicants amended the '431 application to avoid rejection under Campbell. This constituted a violation of applicants' duty under M.P.E.P. 2001.06 (b), and caused unjustifiable and prejudicial delay in prosecution.

(3) DIRECTV "Overlays" Appear to Have Been a Target.

One of the issues in the ITC Litigation was whether applicants had DIRECTV-like overlays. In the ITC litigation, the ALJ characterized DIRECTV overlays as follows (see [Part 1 of 2], 1997 LEXIS 307, at *58):

> . . . Complainant [applicants' interest] has argued that three types of "overlays" are generated by the accused DSS systems, that "information concerning [a pay-per-view] movie . . . such as the start time, rating, and time" is a "video overlay" [i.e. a simultaneous or sequential presentation of e.g. graphic and video] related to "a viewer's reaction to specific content in that program;" and that "an information banner, which includes information such as the title and rating of the television program" is a video overlay [i.e. a simultaneous or sequential presentation of e.g. graphic and video] related to "said television programming;" and that "the Program Guide . . . is a video overlay displaying information . . . in response to the viewer pressing the appropriate button on the remote control . . . [i.e. a simultaneous or sequential presentation of e.g. graphic and video] . . . ."

In this case the ALJ found that applicants' claims did not read on the DIRECTV overlay due to applicants' simultaneous presentation of graphic and video material, while DIRECTV had sequential presentation of graphic and video material. However, subsequent to this case, applicants amended claim language in an apparent attempt to read on DIRECTV's overlay. For this reason, it appears that counsel Scott's insistence on another interpretation of Campbell may have been because of his unwillingness to give up claims applicants hoped would read on DIRECTV's overlay. However, Campbell clearly teaches applicants' claimed overlays. Applicants had a duty under M.P.E.P. 2001.06 (b) and (c) (Appendix at 000497-498) to keep each examiner informed of the treatment of the same claimed subject matter in other applications. In failing to so inform examiners, it appears that applicants' principal counsel desired a "lapse" on the part of an examiner not informed of the potential conflict or of the issues raised in the ITC litigation. Applicants' conduct has resulted in unjustifiable and prejudicial delay.

vi. Applicants have Acted Contrary to 37 C.F.R. § 10.85(a)(4),(5), and (6).

The Appendix at 000001-334, contains a Microsoft Word "Compare Documents" comparison of the 1987 557-page specification with the 1981 44-page specification. Theoretically, the Compare Documents function underlines new subject matter in the 1987 specification. In addition, the function is intended to strike out 1981 subject matter deleted in 1987. The function is also intended to show no underlining or strikeouts when content between the two compared documents is the same. (The Compare Documents function is not foolproof, however, and the comparison attached does contain some comparison errors.)

However, most of the text in the comparison displays underlining, indicating that applicants added new subject matter to the 1987 disclosure. In addition, most of the 1981 specification has been struck. At first glance, there appears to be some limited common subject matter (for example, Appendix at 000013-015).

Nevertheless, due to the context of the 1987 disclosure, even apparent common subject matter actually conveys different ideas and concepts than in the 1981 disclosure. To establish that applicants "possess" an invention, claiming priority benefit to 1981, applicants must trace the written description back through the 1987 disclosure to the 1981 disclosure. This they have not done.

While the Document Compare function is fallible, it illustrates the severity of the applicants' failure to incorporate by reference. Applicants' responses, alleging that only the 1981 disclosure is relevant, appear intended to mislead the U.S.P.T.O. as to the lawful requirements of Section 120 and 112.

(1) Applicants have Misguided the Examining Corps.

Throughout the portfolio prosection, applicants' counsels have practiced a pattern of misguiding the examining corps with statements such as the following:

> Applicants . . . point out that the . . . subject application claims priority back to the application filed November 3, 1981. . . . Consequently, the Applicants will demonstrate disclosure only with respect to the [19]81case.

See application no. 08/468,641, paper no. 12, page 22, first paragraph. In addition,

> The present application claims priority under 35 U.S.C. 120 . . . . Consequently,

the Applicants will demonstrate disclosure only with respect to the '81 case.

See application no. 08/479,024, paper no. 12, page 20, second paragraph. Also,

The following . . . corresponds to the specification support in the right column . . . .

See application no. 08/479,024, paper no. 17, page 30, last two paragraphs, referring to the 1981 disclosure. Furthermore,

The following table...corresponds to the specification . . .

See application no. '641, paper no. 16, page 32, last paragraph, citing to the 1981 disclosure.

These statements demonstrate a pattern of misguiding the patent examining corps as to the proper "specification." This pattern of misrepresentations is contrary to applicants' duties to the U.S.P.T.O. under 37 C.F.R. § 10.85 and 37 C.F.R. § 1.56, and continues a pattern of conduct for which applicants were admonished by Administrative Law Judge Luckern. Applicants' pattern of affirmatively misleading the office, and omitting the 1987 disclosure, has caused unjustifiable and prejudicial delay.

vii. Applicants Did Not Possess The Claimed Invention.

Section 112 first paragraph requires applicants' 1987 disclosure to have conveyed, with reasonable clarity to those of ordinary skill in the art on September 11, 1987, that applicants possessed that which they now claim. For each pending claim, the examiner must determine whether one skilled in the art would have immediately discerned all of the claim limitations at issue from the disclosure *at the time that the 1987 disclosure was originally filed*. Examiner finds, under Section 112, that one skilled in the art would not have immediately discerned the claim limitations at issue from the 1987 disclosure.

(1) <u>Applicants Did Not Possess Downloading Software</u>.

Applicants have attempted to change the meaning of words from one disclosure to another in order to establish that one skilled in the art, on that date, would have discerned the claim limitations at issue from the 1987 disclosure. For instance, applicants' 1981 disclosure described a television distribution system that distributed digitally encoded instructions within the VBI of its distributed TV programming. These distributed instructions were used to cue the execution of specific software that was stored within "peripheral" devices located throughout the network. In the year 2000, applicants argue that a series of these distributed cuing signals represented a series of instructions for controlling a programmable processor and therefor represented computer software "programming." The examiner rejects this argument. This is equivalent to arguing that a computer input device such as a mouse, generates computer software programming because it, too, provides a series of instructions which cue specific computer software "programming" to be executed by the computer. Clearly, received instructions which cue a programmable processor/computer to execute designated portions of pre-loaded software do not constitute, nor, under Section 112, do they convey in an "immediately discernible" fashion, computer software "programming" in the conventional sense of such terminology. The meaning which applicant now attempts to give the terminology is repugnant and would not have been "immediately discernible" to one skilled in the art. It does not pass Section 112 first paragraph muster. Applicants have argued new meanings solely for the purpose of establishing Section 112 first paragraph support for its use and introduction into the pending claims.[6]

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[6] While applicants use distorted definitions and interpretations of conventional terminology to justify subsequent introduction of these terms into applicants' original disclosure/claims under Section 112 first paragraph, applicants' legal arguments in alleging infringement against others have shown that applicants do not wish to be held to these distorted definitions and interpretations. Applicants argue for a process which would allow applicants to obtain patent

The example given above illustrates the kind of absurd arguments that the examiners of record have struggled to deal with throughout the prosection of applicant's 329 co-pending applications. This example also demonstrates the extent to which applicants will twist and bend the content of the 1987 disclosure in order to retroactively create support for currently recited subject matter. This current subject matter was not, in fact, disclosed or described within applicant's 1987 disclosure.

Examiner must rely on Section 112 first paragraph rejections in order to encourage a clear and accurate explanation from applicants as to how their own claims can be interpreted so as to be supported by the 1987 disclosure. The current claim limitations incorporate terminologies having current conventional meanings that are vastly different from the meanings and scopes that are now attached to them by applicants' current arguments. These arguments are not part of the original disclosure.

Returning to the argument addressed above, applicants now drafts claims whose limitations include "computer software/programming" terminology so as to literally obtain patent coverage over the downloading of "computer software/programming" while, at the same time, trying to base their own alleged support for these newly introduced limitations on their 1981 disclosure's description of transmitted instructions which clearly did not comprise "computer software/programming" but only cued its execution. This is a blatant attempt to obtain literal patent coverage claiming priority to 1981 for something that applicants did not have in their possession as of the 1981 filing date.

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coverage over subject matter on the basis of current conventional meanings of art-related terminology when, in actuality, applicants obtained such patent coverage only through a distorted reading of the same terminology.

Applicants' numerous attempts to change the plain meanings of terms should be discouraged.

viii. Applicants Failed to Timely Complete the Alleged Consolidation Agreement.

Applicants allege that in November 1998, they agreed to consolidate their applications into 79 applications. As of March 7, 2000, applicants had consolidated approximately 25 percent of their applications. This issue is expected to be addressed in further detail in response to applicants' 37 C.F.R. § 1.181 petition in application no. 08/470,571. Applicants' failure to consolidate their cases in a timely manner has resulted in unjustifiable and prejudicial delay of prosecution, contrary to the public interest. Obviously, the PTO cannot prosecute consolidated cases until such cases are, in fact, consolidated under the terms of the alleged agreement.

5. APPLICANTS MAY EITHER OWE FEES, OR BE DUE A REFUND.

a. Applicants Have Perpetuated Small/Large Entity Confusion.

Counsel Lecher (registration no. 41,933) admitted to the examiner (the "admission") that applicants' counsels, Messrs. C. Talbot (registration no. 34,262), Jeffrey Auerbach (registration no. 32,680), Michael J. Strauss (registration no. 32,443), and Thomas J. Scott, Jr. (registration no. 27,836) have been simultaneously making small and large entity fee payments at the direction, or under the supervision of, Mr. Scott. The examiner previously asked Mr. Lecher to explain the rational for these varying payments; however, Mr. Lecher provided no explanation. The Appendix at 000335-419 details a record of applicants' fee payments over the course of the portfolio prosecution over the last several years. This record demonstrates apparent discrepancies in applicants' claims to small entity fees.

b. <u>There Are No Apparent Differences in Subject Matter for Large/Small Inventions</u>.

The primary examiner has considered various claimed subject matter of the applications having paid small entity fees (the "small entity inventions"). Additionally, the primary examiner has considered various claimed subject matter of the portfolio applications having paid large entity fees (the "large entity inventions"). Examiner cannot find a difference in claimed subject matter between the large entity inventions and the small entity inventions. This does not appear to a basis for a fee discrepancy.

c. <u>Applicants' Subject Matter Groupings Do Not Appear to Justify a Fee Discrepancy</u>.

Applicants have indicated they have 56 subject matter groupings (the "56 groupings"). Appendix at 000444-445. Counsel Scott alleges that each of applicants' 56 groupings (e.g. ADVT, ASIN, etc.) claim different subject matter (<u>see</u> 37 C.F.R. § 1.181 Petition filed on March 7, 2000, in 08/470,571, page 9). Examiner finds that the 56 groupings do not, in fact, claim different subject matter.

The primary examiner finds that the 56 groupings comprise substantially duplicate claims (see Appendix at 000485-495). For example, the first representative set of applicants' substantially duplicate claims compares "grouping NAUT," application 08/477,805, claim 25 and "grouping SETT," application 08/449,523, claim 11. The subject matter of "NAUT" claim 25 is the subject matter of "SETT" claim 11. Claim 11 is merely a bit broader than claim 25. Likewise, others of the 5 sets are from different groups, but claim the same subject matter. The primary examiner finds that these different "subject matter groupings" actually claim the same subject matter, and do not appear to form a valid basis for a fee discrepancy.

d. <u>The Payment Record Demonstrates Discrepancies Within the Same Grouping</u>.

The primary examiner has compiled a fee payment fact sheet for applicants' patent application portfolio ("payment record"). Appendix at 000335-419. This payment records demonstrates fee discrepancies even within the same "subject matter groupings." For instance, portions of the compiled record corresponding to the "NAVI" grouping demonstrate differing payments for two applications within the "NAVI" grouping, as follows (application no. 08/449,697 ('697) and 08/460,240 ('240)):

| | | | | |
|---|---|---|---|---|
| 08449697 | 24-May-95 | SMALL | BASIC FILING FEE UTILITY | $ 365.00 |
| 08449697 | 24-Sep-97 | SMALL | CLAIMS IN EXCESS OF 20 | $ 22.00 |
| 08449697 | 24-Sep-97 | SMALL | EXTENSION FOR RESPONSE WITHIN 3RD MO. | $ 465.00 |
| 08449697 | 16-Jul-98 | LARGE | EXTENSION FOR RESPONSE WITHIN 3RD MO. | $ 950.00 |
| 08449697 | 16-Jul-98 | LARGE | CLAIMS IN EXCESS OF 20 | $ 484.00 |
| 08449697 | 16-Oct-98 | LARGE | STATUTORY DISCLAIMER | $ 110.00 |
| 08460240 | 02-Jun-95 | LARGE | BASIC FILING FEE UTILITY | $ 365.00 |
| 08460240 | 30-Nov-95 | LARGE | INDEPENDENT CLAIMS IN EXCESS OF 3 | $ 468.00 |
| 08460240 | 30-Nov-95 | LARGE | CLAIMS IN EXCESS OF 20 | $ 627.00 |
| 08460240 | 23-Jun-97 | LARGE | EXTENSION FOR RESPONSE WITHIN 3RD MO. | $ 930.00 |
| 08460240 | 06-Jul-98 | LARGE | NOTICE OF APPEAL | $ 310.00 |
| 08460240 | 06-Jul-98 | LARGE | EXTENSION FOR RESPONSE WITHIN 3RD MO. | $ 950.00 |
| 08460240 | 16-Jul-98 | LARGE | FOR FILING A SUBMISSION AFTER FINAL REJECTION UNDER RULE 1.29(a) | $ 790.00 |

It is evident that the "small" and "large" labels for these applications are contradictory. The first column denotes the application number. The second column denotes the date the office received the payment. The third column, containing the labels "SMALL" or "LARGE," indicates the type of fee payment made. The fourth column indicates the type of transaction. The fifth column indicates the amount of payment. It is unclear why applicants have paid different fees for what they have alleged to be the same subject matter (Appendix at 000444).

Counsel Lecher's admission appears to raise potentially significant consequences. <u>See</u> <u>DH</u>

Technology Inc. v. Synergystex International, 47 U.S.P.Q.2d 1865 (Fed Cir. 1998), Appendix at 000446-461. It is the primary examiner's responsibility to recognize this admission and what may be improper fee payments. To date, applicants have provided no good-faith explanation that might explain the fee discrepancies.

e. Erroneous Fee Payments Would Violate the Alleged Agreement to Consolidate. Erroneous fee payments would be in violation of the alleged agreement for consolidation, because the abandonment of applications containing incorrect fee payments would bury the record of such errors. The primary examiner could not accept consolidated applications that accomplished such a purpose. Applicants' agreement to consolidate is premised on an assumption by the U.S.P.T.O. that such consolidation will accomplish lawful ends only.

f. Applicants' Counsel Has Been Aware of Fee Discrepancies Since 1995. Counsel Scott discussed small/large entity issues with the PTO as early as August 13, 1995. Appendix at 000425-426. It appears that, at that time, applicants had received notice of failure to include proper small entity certifications.

i. Applicants Were Required to Update Small Entity Status. On September 7, 1995, Mr. Scott acknowledged that applicants were obligated to verify that small entity status was "still proper and desired" (37 C.F.R. 1.28) when they filed their 329 applications. Appendix at 000443.

ii. Applicants Changed Entity Size Status Within Applications. On October 30, 1995, applicants changed application no. 08/441,701 from small to large entity status. Appendix at 000432-433. On December 4, 1995, applicants changed application no. 08/469,496 from large to small. Appendix at 000434-435. (In that case, Mr. Scott attached a

verified entity declaration recognizing 37 C.F.R. § 1.9(d),(f), 37 C.F.R. § 1.27(c), 13 C.F.R.§ 121.12, and 37 C.F.R. § 1.28.)

Applicants have attempted to justify varying payments based on a "fields of use" clause from applicants' portfolio licenses. Specifically, Mr. Scott stated as follows:

> Upon review of (1) the claims as filed in the application as a result of the preliminary amendment and (2) the "field of use" clause in the application's assignee's license contract with a firm that is now a large entity, it has come to applicants' attention that the present application requires large entity status.

Appendix at 000436.

However, over the duration of many months, applicants' "strategy" has included a pattern of changing one or another of the portfolio's 329 applications to and from small and large entity. Further, the portfolio fee payment record reflects applicants' counsels signing both small and large fee transmittal letters for the portfolio, on the same day. The fact that the same counsel would sign apparently contradictory fee transmittal letters for both applicants' portfolios' large and small inventions, claiming the same subject matter, does not appear to be inadvertent.

iii. <u>In May 2000 Applicants' Counsel Admitted to Paying Deficient Fees On and After September 26, 1995</u>.

Recently, Mr. Scott notified the PTO that applicants were large entity, but paid small entity fees erroneously since 1995. Appendix at 000437-442. Specifically, Mr. Scott stated that applicants erroneously paid small entity fees on the following dates:

(1) May 3, 1999 (Appendix at 000437),
(2) March 15, 1999 (Appendix at 000438),
(3) January 21, 1997 (Appendix at 000439),
(4) September 26, 1995 (Appendix at 000441), and
(5) October 18, 1999 (Appendix at 000441).

Mr. Scott identified these dates of erroneous payment almost five years after the August 13, 1995, personal interview. Appendix at 000425-426. In addition, these erroneous payments were identified almost five years after Mr. Scott's September 7, 1995 acknowledgment that 37 C.F.R.§ 1.28 governs small entity fees. Appendix at 000443.

iv. Applicants Have Paid Small Entity Fees for Large Entity Licensees.

It appears that exclusive licensees of applicants pay applicants for their prosecution fees. Appendix at 000474-478, See [Part 2 of 2] 1997 ITC LEXIS 307, *173, *174 (FINDINGS OF FACT 323, 325, 339, 340, 341). Various large entities have exclusive license to applicants' entire patent portfolio, in exclusive "fields of use." Appendix at 000462-463, fact 161; Appendix at 000465, fact 166, 168; Appendix at 000466, fact 171; Appendix at 000467, fact 198, 205, 206; Appendix at 000468, fact 220; Appendix at 000472.5, facts 295-296; Appendix at 000474, facts 312, 320, 323, 324, 325; Appendix at 000475, facts 334, 337, 339, 340, 341; Appendix at 000477, fact 351, 352; Appendix at 000478, fact 358-362, 368. For instance, Starsight, which appears to be a large entity, apparently paid for the prosecution of the '277 patent. Appendix at 000474, fact 323. However, applicants have paid small entity fees, when exclusive licenses were given to large entity licensees.

6. COURTS ASSUME THAT THE PRIMARY EXAMINER DOES HIS JOB.

In the ITC Litigation, the respondents accused the applicants, among other things, of

> (i) intentionally withholding material, non-cumulative references from the Patent Office Examiner during examination of the applications in hopes of obtaining a patent having a claim scope to which they were not entitled;
> (ii) intentionally misrepresenting the art before the Patent Office Examiner, as it related to the claims;

(iii) overwhelming[7] the Patent Office Examiner by burying highly relevant, in fact, anticipating references among hundreds of references having a lesser relevancy [8]; and
(iv) failing to point out an obvious error of the Patent Office Examiner . . . unenforceable because of applicants' "intentional failure" to disclose "highly material and invalidating" information[9]. . . .
Respondents specifically contend that inventor Cuddihy should have disclosed a "Proposed Capital Venture" to the Patent Office . . . it appears that there was no "meaningful" examination . . . the examination is fraught with errors that would not have been made had it been conducted in a "procedurally proper manner;" and that it appears that the cited references were not . . . "meaningfully reviewed" in the examination by the Examiner. . . . It was further asserted that based on a review of the '277 patent file wrapper, it appeared that the '277 patent also is unenforceable due to failure to comply with 35 U.S.C. § 151 by failure to file the entire issue fee.

[Part 1 of 2] 1997 ITC LEXIS 307, *24-26.

In response to the above allegations, the ALJ weighed the examiner's job performance against the applicants' pattern of prosecution. The ALJ did not dispute negative allegations related to the previous examiner's job performance, but assumed that, under the law, government officials do their jobs (". . . it is assumed that public officials do their assigned jobs."). See [Part 1 of 2], 1997 ITC LEXIS 307, *38 *citing* Molins PLC v. Textron Inc., 48 F.3d 1172, 80 U.S.P.Q.2d 1823, 1832 (Fed. Cir. 1995). While in that case, the ALJ recognized the examiner's poor job performance, and did not find inequitable conduct against applicants, the general rule remains that a public official is assumed to perform his assigned job.

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[7] "Overwhelming" in that case meant over 200 references, while in the present prosecution there are over 2,200 prior art references.

[8] In the present prosecution the irrelevant references include "ZING", "PIN BOX", "BEE HIVE", business cards, "Trochanteric Basket" a medical implant device, etc.

[9] See, e.g., the June 16, 1999, Personal Interview.

7. CONCLUSION: THE PRIMARY EXAMINER IS DOING HIS ASSIGNED JOB.

It would be easy for the primary examiner to ignore applicants' patterns of conduct, and ignore the fee payment admission. However, the M.P.E.P. states that "[O]nce an inadvertent omission is brought to the attention of the applicants, the question of inadvertence no longer exists." M.P.E.P. 714.03. For this reason alone, applicants' non-responsive amendments are not *bona-fide*. Moreover, the primary examiner's job requires identifying applicants' overt irregularities and material failures or violations. Therefore, the primary examiner has demonstrated that the non-responsive amendments cannot be *bona-fide* by showing applicants' prior knowledge and subsequent improper practices. These continuing practices occurred both in the pattern of portfolio prosecution and in the fee payment record. In addition, the primary examiner has provided examples of instances in which applicants caused unjustifiable and prejudicial delay in prosecution, to the detriment of the public interest. In addition to this notification of non-responsive amendments, the primary examiner finds that rejection on the basis of laches is supportable.

Any inquiry concerning this communication or earlier communications from the primary examiner should be directed to William Luther, whose telephone number is (703) 308-6609.

William Luther
Primary Examiner